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Full Name of Author — Nom complet de l'auteur
WILLIAM DAVID RATCLIFFE

Date of Birth — Date de naissance
JAN 3, 1947

Country of Birth — Lieu de naissance
CANADA

Permanent Address — Résidence fixe
251 BAIN AVE
TORONTO M4K 1G2

Title of Thesis — Titre de la thèse
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Name of Supervisor — Nom du directeur de thèse
Dr. T. Nelson

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DEPENDENT AND NON-DEPENDENT TEENAGE DRINKING

BY

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PSYCHOLOGY

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(Signed) W.D. Ratcliffe

PERMANENT ADDRESS:

251 BAIN AVENUE
TORONTO, ONTARIO
CANADA M4K 1G2

DATED October 1 1982

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled **"Dependent and Non-dependent Teenage Drinking"** submitted by William David Ratcliffe in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Supervisor

BK Sinha

Reginald G. Smart

External Examiner

Date October 1, 82

To my parents,

William Burns Ratcliffe
Anna June Needham

who tilled the soil
so I could flourish
in the garden of my own choosing.

ABSTRACT

To help develop more effective preventive programs a survey of 2,460 junior and senior high school students was conducted during April 1979 in Edmonton, Alberta to identify and compare dependent and non-dependent teenage drinkers. Drinkers classified as dependent had consumed alcohol during the six months prior to the survey and showed a behavioral preference for drinking (usually used) as a means of either promoting pleasure or coping with negative feelings. The operational definition of dependence did not refer to physical dependence or alcohol addiction, but rather to a functional dependence on drinking as an important coping behaviour.

About 60% of teenagers drank during the six months prior to the survey but were not classified as dependent, while 18% of boys and 15% of girls were classified as dependent. The prevalence of dependent drinkers increased with grade, especially among boys. By grade 12 almost twice as many boys were classified as dependent in comparison with girls (31% vs. 18%).

In comparison with non-dependent drinkers, dependent drinkers drank more per occasion, drank more frequently and drank more for the pyschological effect than to mark special occasions. More of them used other drugs as well.

Dependent drinkers were about one year older than non-dependent drinkers, on the average; they received lower grades in schools; and they reported more conflict with, and emotional distance from their parents. Most dependent drinkers (70%) viewed either or both of their parents as dependent on alcohol in comparison with a minority of non-dependent drinkers (42%). Over 70% of

dependent drinkers also viewed their best friend as dependent on drinking as a major coping behavior in comparison with about 20% of non-dependent drinkers. Both peer influence and selection on the basis of similar preferences, were indicated.

The dependent/non-dependent classification was reliable: 81% of a separate test-retest sample of 112 students received the same classification after a period of one month.

The study demonstrated that a substantial portion of teenagers treat drinking as a major coping behavior, something which they view as fairly common among their parents and peers. For these teenagers to grow up with a better alcohol-related health record than their predecessors, steps will have to be taken to ensure that they learn more adaptive ways of coping with life's inevitable trials and frustrations, and promoting pleasure and excitement. Several suggestions for prevention intervention were discussed.

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Mr. Allan Schoening made it possible for us to obtain the Fort Saskatchewan student sample and he administered the surveys to these students. This was a valuable contribution to the overall research project as it allowed us to determine the reliability of our measures over time.

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Dan Precht of the University of Alberta Computing Services Department consulted on the preparation of the optial scoring sheets, and prepared the necessary programs for scoring the responses. His assistance was greatly appreciated.

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This study was conducted to learn more about teenage drinking with a view toward developing more effective prevention programs. Knowing more about teenage drinking has become increasingly important as governments and social agencies lean more and more toward prevention to keep down the health and social services costs of treating alcohol-related problems.

Learning more about dependence on alcohol and how it develops is crucial to preventing it. This study was designed to explore a method for identifying dependent teenage drinkers, those who have integrated alcohol into their lives to such an extent that drinking is their preferred method for promoting pleasure or coping with negative feelings. A large-scale survey of junior and senior high school students was conducted to identify and compare dependent and non-dependent teenage drinkers. By comparing dependent drinkers with other teenage drinkers, we can determine how their drinking patterns differ and shed some light on why they have become dependent while others have not. Knowing this will help to develop more effective prevention programs.

Prevention of Alcohol Abuse

Becoming a drinker is a part of growing up in our society (Jessor & Jessor, 1975). Alcohol use typically begins sometime during the adolescent years and is normally marked by an orderly transition to non-injurious patterns of drinking during adult life (Maddox, 1966; Mandell & Ginsberg, 1976). However, this is not always the case.

Blane (1979) has identified two populations of adult problem drinkers: 1) alcoholics who are typically middle-aged and suffer health and social problems as a result of chronic and pervasive heavy drinking, and 2) frequent heavy drinkers, who are typically 18 - 25 years old and whose drinking is typically episodic, occurring within a relatively ordered lifestyle. Blane argues that there is sufficient evidence to conclude that these two types of drinkers show equally high problem rates with equally high social costs:

> "Analysis of national data bases indicates that for problems directly attributable to alcohol, middle-aged males and females have higher rates than young adults of liver cirrhosis mortality, inpatient-outpatient care episodes for alcohol abuse, and arrests for drunkenness. Young adults have higher rates for drunken driver mortality, arrests for driving while intoxicated, and arrests for liquor law violations.
>
> For problems indirectly attributable to alcohol, young adults have higher rates than middle-aged adults of all problems examined, except suicide. These problems include motor vehicle fatalities, other accident mortality, divorce, arrests for disorderly conduct, vandalism, serious crimes against persons, other assaults, rape, sex offenses, prostitution and commercialized vice, and offenses against family and children.
>
> These findings suggest that the social and human costs associated with alcoholism, on the one hand, and problems stemming from frequent heavy drinking, on the other, probably do not differ greatly." (Blane, 1980, p. 35)

A sizable portion of the adult population suffer from problems with alcohol. It is estimated that 3.9% of Ontario adults are alcoholics (Single, 1978) and even more consume alcohol at rates injurious to their health (Smart, 1980a). In the United States, it is estimated that 7% of adults are alcoholics or problem drinkers (Healthy People, 1979). Apparently, some teenagers learn to drink in ways that result in serious and sometimes persistent alcohol-related problems during their adult life.

Prevention of alcohol related problems is an emerging priority since:

1) misuse of alcohol now presents a major threat to public health (LeDain, 1973; Healthy People, 1979),

2) per capita consumption of alcohol and alcoholism appear to be increasing (Smart, 1979),[1]

3) treatment programs appear to meet with limited success (Emrick, 1975; Edwards, Orford, Egert, Buthrie, Hawker, Hensman, Mitcheson, Oppenheimer, and Taylor, 1977; Annis, Giesbrecht, Ogborne, and Smart, 1976).

On the topic of treatment, Smart (1979) has concluded:

> "Probably, treatment of alcoholics must continue in order to provide training opportunities and clinical material for study. However, the myth that treatment of alcoholics is a successful venture must soon cease to engage our thoughts." (pp. 255-256).

With sufficient justification for considering a preventive approach, there are several intertwined prevention issues that must be clarified before relevant research can be initiated. These issues include: what is to be prevented, what should the intervention focus on; and who should be the primary target group.

What is to be Prevented? Reducing the incidence and severity of the problem consequences of drinking is generally agreed to be the overall long-term purpose of both preventive and remedial intervention. Interventions can be problem specific, for example, targetted at drinking and driving; or more generic aimed at reducing heavy abusive drinking and thereby reducing the incidence of a variety of problems. Both approaches have merit. Research in service of the former must be problem specific, yielding information about the particular circumstance that foster the problem and how they can be avoided. The present research has been formulated in service of the latter, the prevention of heavy drinking and not the prevention of a specific problem consequence of drinking. The generic approach is appealing since numerous problems have been attributed to heavy drinking.

What Should the Intervention Focus On? Since prolonged heavy drinking is associated with various health problems (Bruun et al., 1975; Makela, 1978), and frequent heavy drinking, that is not necessarily chronic, is also associated with numerous problem consequences (Blane, 1979), organizations such as the Addiction Research Foundation (ARF) of Ontario have placed great emphasis on reducing heavy consumption (ARF, 1978). ARF has taken the position that reduced consumption can best be accomplished by reducing availability of alcoholic beverages through various means (e.g., pricing and limited distribution). In simple terms, the intention implicit in this approach is to reduce consumption by reducing supply. Another way of reducing drinking is to reduce demand. This will likely involve finding adaptive alternatives for meeting needs otherwise satisfied by drinking and is the approach to prevention for which this study was conducted.

Who Should Be the Primary Target Group? Teenagers are the primary target group for prevention efforts described above because they are in the process of formulating their basic beliefs and attitudes about drinking which they will carry forward into the adult life. Most are not yet heavily involved in drinking, but their drinking habits are beginning to take shape. The high school years offer a controlled and a relatively moderation-oriented environment which fades rapidly in the post-high-school years. An excellent description of the high school environment has been provided by Blane (1979):

> "The conditions of being a high school student probably influence and shape the quality of drinking, tending to keep it more moderate than not. Alcoholic beverages are not as readily available to high school as to post-high-school youth, by virtue of economic and legal constraints: high-schoolers don't have as much money, and their purchase of alcoholic beverages is against the law (these are, of course, relatively inhibiting factors; for the person determined to drink, questions of cost or legality form no barrier). Also, high-schoolers spend much of their daily lives in settings in which either drinking itself is taboo (the school) or heavy drinking is not permitted (the home). Further, and independent of formal and informal controls, the high school student lives in a world in which the psychological and moral force of adult authority is still extremely compelling. These general social conditions that surround the role of high school students tend to reinforce not drinking at all or drinking moderately and to inhibit heavy drinking. That other powerful forces are also operative is obvious from the fact that high-schoolers do drink excessively and sometimes do so repetitively. The point is that these brakes built into the high school student's life either disappear or fade considerably after he leaves high school, allowing for greater play in drinking behavior." (p. 18)

The post-high-school years, in which frequent heavy drinking is most prevalent (Blane, 1979), typically involves leaving the family environment for school or work settings where drinking is legitimate in terms of age and often obligatory in terms of social norms. The drinking beliefs, attitudes and skills that teenagers develop during their high school years will insulate them, well or poorly, against the social and psychological encouragements to drink during their adult lives. Teenagers who become dependent on drinking as a major or preferred means of coping with emotional difficulties or promoting pleasure, will likely become involved in the kind of frequent heavy drinking, either chronic or episodic, that fosters health, social or vocational problems. Knowing more about such dependence will help to prevent it.

Problem Drinking

Recognizing the importance of targetting prevention programs at teenagers has prompted considerable effort to identify and describe teens at risk to subsequent problems with alcohol. Maintaining a symptom orientation has lead many researchers to identify problem drinkers among teens. Teenagers who experience acute alcohol-induced consequences, which they themselves or others define as problems, are assumed to be at risk to long-term difficulties with alcohol. Although this is a popular approach to identifying adolescents who could benefit from intervention, it has two major shortcomings.

First, estimates of the prevalence of problem drinkers among young people vary greatly depending upon the nature and strictness of the definition. Estimates vary from 6% to 40% according to Smart (1980a), and 2% to 56% according to Bacon (1976). For example, when drunkenness one or more times during the past month was used as an index of problem drinking, 40% of British Columbia (Cutler and Storm, 1973) and 42% of Ontario (Smart, Gray and Bennett, 1978) high school students qualified as problem drinkers. On the other hand, as few as 2.7% of students reported having experienced two or more problems on a four-point problem drinking scale which measured whether they wished to drink less, whether their parents felt they drank too much, if they had been arrested or warned by the police in connection with drinking or whether they had been treated by a doctor or counselor (Smart, 1980c). As a result of the varying operational definitions, comparability of the results suffers (Mandell and Ginzburg, 1967).

Second, acute alcohol-related problems experienced during adolescence may or may not be associated with dependence on heavy drinking and with problem consequences during adult life. In one study that has specifically examined problem drinking over time in the same individuals, Fillmore (1974) found that only about 30% of young problem drinkers (aged 1[illegible] to 25) were also problem drinkers 20 years later. In the only other study of this kind, 43% of male and 27% of female senior high school students classified as problem drinkers were still problem drinkers seven years later (Donovan, Jessor and Jessor, 1982).

Although these longitudinal findings are promising, Smart has summarized the relationship between teenage and adult problem drinking this way:

> "It seems likely that a number -- perhaps half -- of young people's drinking problems will disappear with time. They are associated more with youthful drinking patterns than with lifelong style. This is not to say that youthful drinking problems are unimportant, only that many are not permanent ." (Smart, 1979, p. 256).

The focus on problem drinking among teens may be misguided for two reasons. First, the prevalence of frequent heavy drinking, associated with a variety of problem consequences, is not high among teens (Blane and Hewitt, 1977; Harford and Mills, 1978) due to the high school age environment described previously by Blane (1979). Many teenagers may be learning, attitudinally and behaviorally, to integrate drinking into their lives in ways that bode poorly for their subsequent drinking behavior, but may not show current drinking problems. Smart (1980b) identified teenage drinkers with one or more symptoms of "a severe dependency likely to be long-lasting" (p. 13). Not all of these severely "dependent" drinkers reported problem consequences (82% did) while some "non-dependent" teenage drinkers did (17%).

Second, focusing on problem drinking deflects attention from the phenomenological aspects of teenage drinking (Bacon, 1976; Filstead and Mayer, 1980). We know little about teenage beliefs and attitudes toward drinking, how they develop and how they can be shaped. The importance of learning more about the subjective meanings that teens attach to drinking, and other potentially health threatening behaviors, is evident in concerns for identifying viable alternatives. As Jessor has indicated:

> ". . . if we are interested in interventions that make available less health-compromising behaviors as substitutes or alternatives -- for example, meditation or mountain climbing instead of marijuana as a way to get high -- we will need knowledge about meanings in order to be sure that the proposed alternatives can truly serve as substitute ways of attaining the same or similar goals." (Jessor, 1982, p. 16)

The Alternatives Approach

One of the most promising approaches to alcohol abuse prevention rests on understanding the motivations to drink and then identifying attractive, adaptive alternatives for satisfying these motivations (Brecher, 1972; Cohen, 1971; Messlonghites, 1975; Low, 1975). The assumption is that drinking, as well as other drug use, will vary inversely with the use of attractive alternate means of meeting needs.

We should realize that the basic principle underlying the alternatives approach is not new. The possibility of behavioral substitution is, after all, one of the basic tenets of behavior modification (Bandura, 1969) and therefore a broad range of activities can potentially serve as alternatives. As Cohen suggests:

> "Once we presume that 'alternatives' are important, we must expand the model to fit complex variables in all phases of the drug scene. We face questions like: Which alternative for which motive? Which alternative for which person?" (Cohen, 1971; p. 18).

So far two researchers have examined empirically some of the parameters of the alternatives approach; Bowker and Olson. Bowker (1977) studied the motives that high school students, college students and adults associated with personal use of a variety of substances. Earlier, Cohen (1971) outlined a long list of possible motives for drug use. This list included: physical, sensory, emotional, interpersonal, social, political, intellectual, creative/aesthetic, philosophical, spiritual/mystical and miscellaneous sets of possible motives. Bowker compressed his list to 8 motives and asked his respondents to indicate their primary motive for using 12 different drugs. Among other things, his findings revealed that hallucinogens and amphetamines were used to satisfy intellectual and adventure/curiosity motives, alcohol and marijuana were used to satisfy social, emotional and adventure/curiosity motives, and no particular motives were associated with the use of nicotine and caffeine.

In general, it is agreed that drugs are used to alter unpleasant moods and achieve desired experiences (Brecher, 1972; Russell and Mehrabian, 1975). But other activities are also commonly used for palliative and euphoriant ends. Rather than starting with an assessment of these activities, many programs designed around the alternatives approach have sought to entice members of their target groups to seek exotic alternatives to drugs, like meditation, self-hypnosis, and sensitivity training. In an effort to focus attention back on commonly used activities for managing feelings and provide an empirical base for the alternatives approach, Olson studied activities that students and adults usually use to manage a set of six feelings commonly cited as motives for intoxicant use (Barnes & Olson 1977; Olson & Barnes, Note 1; Olson, 1978-79).

Barnes and Olson (1977) examined the behaviors that junior and senior high school students usually used to achieve positive experiences and to reduce aversive experiences. These investigators asked 300 students between the ages of 13 and 18 to indicate what they usually did in order to overcome feelings of:

(1) anxiety
(2) depression
(3) hostility

and to obtain feelings of

(4) adventure
(5) comaraderie
(6) and pleasure.

Students were asked to respond by choosing one option from a set of drug and non-drug options. The non-drug options included physical activity, intellectual activity, distracting activities, personal contemplation or reflection, discussion with a friend or parent, professional or religious counselling, social activities or risk-taking activities. The drug options included ingesting illegal drugs (eg. marijuana, speed, glue, etc.), alcohol (beer, wine or liquor), tobacco products, other prepared beverages (coffee, tea, soft drinks) or food.

Their findings revealed that some of these options are negatively reinforcing while others are positively reinforcing. That is, distracting activities, discussion with a friend or parent, and personal contemplation were chosen frequently as methods for alleviating aversive experiences. On the other hand, social activity, risk-taking activity, and physical activity were chosen frequently as methods for achieving desired experiences.

The adolescents in their study preferred non-drug alternatives for managing their well-being. However, drugs were the solution of choice in 10 - 15 % of the cases for coping with anxiety and promoting pleasure and a sense of adventure, and in 6 - 8% of the cases for promoting comaraderie and coping with hostility and depression. In other words, some teenagers acknowledged being reliant or dependent on alcohol or other drugs for promoting pleasure or coping with negative emotions.

Dependent Drinking

In this study, Barnes and Olson's (1977), method was adapted and used for identifying dependent and non-dependent drinkers among adolescents. Dependent drinkers were defined as those teens who reported drinking during the past six months and reported usually using alcohol as a means of managing one or more of the set of six emotions. By allowing teenagers to freely select their behavioral preferences, those who were beginning to lean toward drinking as a coping behavior were included in the classification of dependent. By indicating a preference for drinking as a means of promoting pleasure or coping with negative feelings, respondents reveal positive attitudes toward drinking, beliefs about the benefits of drinking in contrast with other alternatives, and a developing drinking habit that will likely be long-lasting.

It must be recognized that this operational definition does not refer to physical dependence or alcohol addiction, but rather to a functional reliance on drinking as an important coping behaviour. The term dependence was specifically selected, instead of the term reliance, to emphasize the seriousness of turning first to alcohol to promote pleasure or cope with negative feelings, and to highlight the threat that such reliance on alcohol poses for teens' aspirations for independence and control over their lives.

Possible Factors Contributing to Dependence on Drinking

Despite the shortcomings noted earlier, research on problem drinking does offer some guidance as to why some teenage drinkers become dependent while others do not. The following section provides a brief summary of research on the factors associated with problem drinking among adolescents. This summary was greatly aided by reviews completed by Blane and Hewitt (1979), Mandell and Ginsberg (1976) and Braught, Braharsh, Follingstad and Berry, (1973). These reviews reached similar conclusions with respect to problem drinking during adolescence.

Braught et al. resume the sociocultural correlates of problem drinking this way:

> "The most common variety of adolescent problem drinkers would seem to come from a home where the parents are high users of alcohol and would seem to belong to a peer group in which high alcohol use is also encouraged." (p. 94).

These same authors go on to describe the personal correlates of problem drinking in the following manner:

> ". . . there appears to be substantial agreement that adolescent problem drinkers are individuals lacking in personal controls, as evidenced by relatively high aggressiveness and impulsiveness. At the same time, there exists some evidence which indicates that adolescent problem drinkers have some basic neurotic tendencies which form a coherent cluster of traits: relatively low self-esteem, high anxiety, depression, and a general lack of success in the attainment of life goals." (p. 95).

The picture that emerges is that negative emotions and low expectations of achievement of satisfaction through the pursuit of the usual social goals in consort with the modelling and reinforcement of intoxicant use by significant others, contribute to the seeking of immediate satisfaction through drinking.

Barnes (1977) has argued that the conditions surrounding problem drinking among adolescents spring from conditions within the family environment. After reviewing the literature, Barnes has concluded, first, that the "best predictor of youth's drinking habits are the attitudes and behavior of their parents in regard to alcohol" (p. 573). Second, her review supports the contention that problem drinking is associated with inter-personal conflicts within the family. Third, she concluded that heavy drinking and associated problem behaviors occur frequently in homes where the parents provide inadequate, inconsistent or outright anti-social role models.

In sum, parents who (1) fail to exhibit and reinforce prosocial and adaptive methods for coping with life's trials and for promoting pleasure, (2) do exhibit and reinforce behavioral preferences for intoxicants in the management of their feelings and (3) serve to create a tense or otherwise unpleasant family environment, appear likely to foster intoxicant preferences in their offspring. These three factors appear to be elements, to a lesser or greater extent, in the families of alcoholics. It is little wonder, therefore, that Fox (1968) has reported that 52% of alcoholics come from disturbed family backgrounds where one or both of the parents were alcoholics, and Bandura has stated "alcoholism typically results from habituation after prolonged heavy social drinking acquired in the context of the familial alcoholism" (1969, p. 535).

Hypotheses

Based on existing findings concerning problem drinking, a number of hypotheses can be stated about factors likely to be associated with dependence on alcohol among teenagers. In comparison with non-dependent drinkers, dependent teenage drinkers are more likely to:

1) come from homes where one or more parent is perceived as dependent on alcohol,
2) experience more conflict with and emotional distance from their parents,
3) experience more frequent negative and less frequent positive emotions,
4) experience less success in attaining usual life goals (i.e. lower grades in school), and
5) associate with peers who are perceived as dependent on alcohol.

In addition, by virtue of the greater functional importance that dependent drinkers place on drinking, they are likely to drink more than non-dependent drinkers. Usually using alcohol to manage one or more emotions implicitly suggests greater use of alcohol. In turn, greater consumption of alcohol by adolescents has been associated with more frequent alcohol-related problems (Ratcliffe & Hewitt, Note 2). Therefore, more dependent than non-dependent drinkers are expected to report having experienced problem sequences of drinking. Finally, more dependent than non-dependent drinkers will use other drugs, reflecting a general predisposition to seek chemical means for coping with negative feelings and promoting pleasure.

Support for these hypotheses will:

1) demonstrate the validity of the dependent drinking concept;

2) illustrate some of the factors that contribute to developing dependence on drinking among teenagers;

3) encourage further research on the development of teenage beliefs and attitudes toward drinking -- the subjective meanings of drinking from the teenage perspective;

4) encourage further research on viable alternatives to drinking; and

5) encourage government and social agencies to find ways to prevent the development of dependence on alcohol as the preferred method for promoting pleasure or coping with negative emotions.

METHOD

Respondents

Senior personnel in the Research and Evaluation Section of the Edmonton Public School Board[2] assisted in the selection of and introduction to suitable schools which were representative of the City of Edmonton. The schools were chosen from different parts of the city, serving students from a variety of socioeconomic groups. A total of 13 schools (6 senior and 7 junior high schools) were visited by two research assistants during the month of April, 1979. Two or three classes at each of the grade levels were surveyed in each of the schools; these classes were selected by the school personnel.

Selecting students randomly would have been a better procedure, ensuring an unbiased sample. However, it was decided that the cost, in time and money, of implementing such a procedure outweighed the benefits.

In total, 2,466 students responded to the questionnaire developed specifically for this study. Approximately half the students were male and half were female (49% and 51%, respectively). The students were equally distributed across grades 7 through 12; 51% were attending junior high schools while 49% were attending senior high schools.

The Questionnaire

Several drafts of the questionnaire were prepared before pre-testing. The questions used in the survey were gleaned from a number of sources described below. Helpful comments on the earlier draft of the questionnaire were received from a number of knowledgeable researchers in the addiction field.[3]

The final questionnaire is shown in Appendix A. It should be noted that this questionnaire was designed as part of a larger study sponsored by the Alberta Alcoholism and Drug Abuse Commission. It contains a number of questions which are not described here, since they are not germane to the study hypotheses. The specific measures used in this study are as follows:

Behavioral Preferences

Questions about behavioral preferences for managing feelings were adapted from those used by Barnes and Olson (1977). The major modifications to their questions are described in detail in Appendix B.

To determine behavioral preferences, respondents were asked to complete the following questions by selecting one response from a list of drug and non-drug options:

1) when I feel nervous or tense, I usually . . .
2) when I want excitement or a thrill, I usually . . .
3) when I feel discouraged or unhappy, I usually . . .
4) when I want to feel good and enjoy life, I usually . . .
5) when I feel angry or mad at someone, I usually . . .

6) when I want to feel relaxed with others my age and enjoy their company, I usually . . .

Respondents who reported drinking as their behavioral preference on one or more of these questions were classified as dependent drinkers. The remaining students who reported drinking during the past six months were classified as non-dependent drinkers.

Each student was also asked to respond to sets of six similar questions that referred to the behavioral preferences that they had observed to be exhibited by their mother, father and same sex best friend. The respondent's mother, father or best friend were classified as dependent drinkers if they were viewed as having a behavioral preference for drinking on one or more of the six questions similar to those listed above.

In addition to providing a method for identifying dependent drinking, the six questions listed above provided an indication of the behavioral preferences of non-dependent drinkers.

Recent Emotions It was hypothesized that in comparison with non-dependent drinkers, dependent drinkers will experience more frequent negative and less frequent positive emotions as a result of their family environment and lower success in attaining usual life goals. To determine their recent emotional climate, respondents were asked to indicate the frequency with which they had experienced the emotions described in the six questions listed above. Thus, the questions on recent emotions paralleled those for behavioral preferences. A 6-

point scale was used to record the frequency with which the emotions were experienced during the past 30 days.

Family Environment Four questions were used to determine the amount of conflict and emotional distance that teenagers experienced with their parents. First, teenagers were asked to rate the degree of conflict that they experienced with their parents, on a 4-point scale. Next they were asked to indicate how many times during the past 30 days that they had had arguments with their parents that ended in disagreement (a 6-point scale).

Emotional distance from parents was determined in relation to that experienced with peers. Teenagers were asked to indicate who, parents or peers, understood them better and whose opinions they respected most. Each of these questions were rated on a 5-point scale.

Success in Attaining Usual Life Goals In this study scholastic standings was used as an indication of the respondent's success in attaining usual life goals. The respondent was simply asked to indicate the grades that they typically received in most of the subjects that they study in school, on a 6-point scale.

Drinking and Drug Use A number of drinking measures were taken as part of this study. Most of the questions concerning alcohol and drug use were drawn from a recent report prepared for the Federal Health Promotion Directorate (Note 3),[4] and from the Drug Abuse Instrument Handbook (Nehemkis, Macari and Littieri, 1975).

Respondents were asked to indicate the average number of drinks consumed per occasion and the frequency of drinking occasions with and without their parents during the past six months. Drinkers were defined as those teenagers who had consumed alcohol on one or more occasions either with or without their parents during the past six months. The respondents were also asked to indicate the frequency with which they had consumed beer, wine and liquor during the past 30 days. In this report, these measures were used to determine the types of alcoholic beverages consumed recently by dependent and non-dependent drinkers.

To help determine teenage motivations to drink, respondents were asked to indicate their primary reason for drinking during the past six months. To help place drinking in the context of other activities respondents were asked to indicate what they most often did on weekend evenings.

The use of drugs other than alcohol was determined through a series of questions. Respondents were asked to indicate their cigarette smoking during the past 30 days and their use of cannabis during the past 6 months. The use of hallucinogens, amphetamines, opiates, tranquilizers, barbiturates and glue during the past six months were also recorded.

Several consequences of drinking (and drug use) were recorded from the teen's perspective. Teenagers were asked to indicate the frequency with which they and those around them had had bad experiences as a result of their drinking or the use of other drugs. No efforts were made in this study to determine what those problems were, since problem drinking was not the focus of this study. However, drinkers were asked to indicate the frequency with which they had become intoxicated during the past six months and the number of friends, if any, they had lost as a result of drinking or the use of any other drugs. Finally, teenagers were asked to indicate how many, if any, new friends they had gained as a result of drinking or the use of other drugs. For the sake of simplicity and clarity these measures were treated as dichotomous variables in the present study.

Pre-testing

Two pretests were conducted to help define the form and content of the questionnaire. The first pre-test involved 109 junior and senior high school students, from grades 7, 9 and 12. After the students completed the questionnaire, they were asked for their comments, especially on those questions that they found difficult to answer.

For the most part, the questionnaire was well received. However, a number of wording changes were required, some scales were adjusted to compensate for ceiling effects and questions dealing with similar topics were grouped more closely for greater ease of completion.

The behavioral preference questions, which were handled in an open-ended fashion during this first pretest, yielded responses which fit readily into the modified list of options obtained from Barnes and Olson (1977). Therefore the list of 17 options was finalized.

Once revisions to the questionnaire were completed, a mock-up of the optically scorable answer sheet was prepared. The custom designed answer sheets were prepared to keep the costs of duplicating questionnaires and keypunching at a minimum and to avoid potential keypunching errors. However, it did mean that respondents had to mark their answers in the right locations or on a sheet separate from the questionnaire. When this procedure was pretested with 30 high school students, they experienced little difficulty using the answer sheets.

Two alternative versions of the questionnaire were prepared. These were designed to determine what influence, if any, differences in the order of drug and non-drug options would have on the students' responses. In the first version of the questionnaire (Form A), the drug options for managing feelings lead in the list of actions from which students could select (see Appendix C). In the second version (Form B) the drug options were imbedded further down in the list of actions from which to select (see Appendix D).

Next, the optically scorable answer sheets were printed (see Appendix E), and the set of verbal instructions for introducing the questionnaire in the classroom was completed (see Appendix F). Finally, in order to detect students who filled out the survey carelessly, or who exaggerate their use of drugs, a question on a fictitious drug (bindro) was added to the survey. This procedure for identifying unusable questionnaires has been used elsewhere (Bakal, Note 4).

Test-retest Reliability

In order to determine the reliability of the dependent/non-dependent classification, Form A of the questionnaire was administered twice to a sample of students attending a senior high school in a smaller urban center located close to the City of Edmonton. Wave I of the survey took place in the beginning of April, 1979 and Wave II followed one month later.

Respondents Two classes from each of the grades 10, 11 and 12 were tested. In all, 143 students responded to the first wave of the survey. One student who reported using the fictitious drug, "bindro" was removed from this sample. Twenty-two of the remaining students were absent from the second administration of the survey, and eight answer sheets from Wave II could not be positively matched with those from the Wave I. This left a sample of 112 teenagers on which test-retest data were successfully collected.

Of the 112 students in this sample, 43% were boys. The proportions of boys at each of the grade levels were similar. The proportions of students at each of the grade levels varied somewhat; 36% were enrolled in grade 10, 43% in grade 11, and 21% in grade 12.

Procedure In each classroom, the research assistant used a standard set of verbal instructions (a variation of those in Appendix F) to introduce the questionnaire and to indicate to students how they were to use the optical scoring sheets in answering the questions. The students in this test-retest study were asked to write their initials and birthdate on the answer sheets. This procedure was used in order to match responses from the two applications of the survey, and allowed the students to retain some anonymity in their responses. Any student who did not wish to identify themselves in this way was under no obligation to do so. Only a few of the students responding to the questionnaire declined to identify themselves.

One further step was taken to minimize the students' inevitable uncertainty as to the anonymity of their responses. The teachers and other supervisory staff were asked to leave the room while the instructions pertaining to the questionnaire were being discussed and while the questionnaires were being completed. This allowed for a relaxed atmosphere and permitted students to ask the research assistant questions about their drug and alcohol use which they may have been reluctant to otherwise. Finally, the students were advised that their answer sheets would be held in the strictest of confidence.

Results As shown in Table I, the incidence of perceived dependence on alcohol was similar in Waves I and II of this test-retest study. Furthermore, the classification was highly reliable. Those classified as dependent or non-dependent were consistent between Waves in 81% of cases for the respondent, 84% for fathers, 91% for mothers, and 74% for best friends.

TABLE I

Prevalence of Dependent Drinkers in Waves I and II

	Wave I (n = 112)	Wave II (n = 112)
Self	30%	31%
Father	48%	46%
Mother	16%	18%
Best Friend	45%	44%

Procedure

Two research assistants were trained to conduct the survey in high school classrooms. In each classroom, the research assistant introduced the questionnaire to the students using the standard set of verbal instructions. Among other things, these instructions advised the students that 1) participation in the survey was voluntary; 2) specific questions which appeared to invade the students' privacy could be omitted; and 3) in order to ensure anonymity, students were not to put their names anywhere on the answer sheets or questionnaires. While the students were completing this survey, the research assistant was available to answer questions. The survey took 30 to 50 minutes to complete.

Both forms of the questionnaire were used in each school. For the most part, each class was given only one form. In this way the students' responses to the instructions to record the form type (A or B) on the optical scoring sheet could be checked against the form that was actually used.

Following each school visit, a letter of appreciation was sent to those teachers and administrative staff involved in the study.

Validity Checks

Sixty students (2.4%) reported using the fictitious drug (bindro) included in the questionnaire. Since these students reported using a drug which does not exist their responses to other questions were of doubtful validity. Therefore, these 60 students were removed from the study leaving a sample size of 2,406 students.

Most "bindro users" were in junior high schools (83%) and a disproportionate number of them (40% vs. 16%) reported having poor grades. When the intoxicant use patterns of those who reported using bindro were compared with other students a consistent pattern emerged: A greater proportion of the "bindro users" reported using all of the substances covered by the questionnaire. Undoubtedly, some proportion of the "bindro users" answered questions relating to other substances accurately. Unfortunately, we were not able to identify them, so all 60 were removed from the sample.

Internal consistency between self-reported preferences for alcohol as a means of coping and self-reported drinking was high. Only I male and 2 female students reported a behavioral preference for alcohol as a means of managing feelings, but did not report drinking during the past six months. These students were excluded from further analyses.

Missing Data

Although participation in the study was voluntary and unpaid, the nonrespondence rate was low. Less than I% of the students failed to answer all of the questions on this survey, with the following exceptions: Up to 3% of the students failed to answer questions about the perceived preferences of their mother (or female guardian) or best friend. In addition, up to 8% of the students failed to answer questions about the perceived preferences of their father (or male guardian). Since 15% of the students reported not living with their father, the higher level of missing data on questions referring to their father was understandable.

Analyses

The first step in the analyses involved identifying total drinkers and dependent drinkers in order to provide some indication of the prevalence of non-dependent drinkers and dependent drinkers in the teenage population. Subsequent analyses were based solely on dependent and non-dependent drinkers.

The analyses were conducted separately on boys and girls for the following reasons: First, teenage boys and girls typically exhibit somewhat different drinking patterns in terms of the amount and types of beverages consumed (Ratcliffe and Hewitt, Note 2). Second, frequent heavy drinkers and alcoholics are more likely to be male than female (Blane, 1979).

Convention calls for the use of an alpha level of 0.05 for determining statistical significance. However, a significant result tells us little about the strength of the association in the absence of information about the sample size. As Hays has indicated, "virtually any study can be made to show significant results if one uses enough subjects, regardless of how nonsensical the content may be" (Hays, 1963; p. 326). Since relatively large samples were used in the present study, an alpha level of .001 was selected for determining significant differences between dependent and non-dependent drinkers. Smaller differences typically accounted for less than 1% of the variance with samples of the size used in this study, based on appropriate measures of strength of association

(Omega squared, Phi and Cramer's V). Such differences are too small to be of any practical significance for program planning.

To some extent this departure from convention is based on the author's understanding of the differences between science and technology (see Morrell, 1979; p. 100-106 for a detailed discussion). Within a strict scientific framework even small differences may have major implications for theory development (Ackoff, Gupta and Minas, 1962). Differences of the same magnitude may be "meaningless in uncontrolled practical settings" (Morrell, 1981; p. 12). Given that the present study has an "applied" or technical thrust, the aim is to identify relatively strong associations with the dependence classification. Only substantial relationships are likely to be of assistance in designing intervention programs (Morrell, 1979).

Finally, the analyses were kept relatively simple and straightforward, since this study was conducted to assist with planning prevention programs.

RESULTS

Prevalence of Dependent and Non-dependent Drinkers

Just over 75% of the high school students reported drinking alcoholic beverages during the six months prior to the survey, although few were of legal drinking age, 18 years or older (7%).

Of central interest in this study were those students who not only drank but had integrated drinking into their lives so that it was the preferred method (usually used) for managing feelings. As shown in Table 2, the prevalence of such dependent drinkers was slightly higher among boys than among girls; 15% of the girls and 18% of the boys were classified as dependent ($X^2 = 4.03$, df = 1, $p<.05$).

As shown in Figure 1, the prevalence of drinkers increased with grade: just under 90% of grade 12 students drink. Drinking with parents increased from 59% in grade 7 to about 74% in grade 12. Drinking without parents increased more dramatically from 30% to 84% (Ratcliffe, Note 5).

The incidence of dependent drinkers also increased with grade, but was certainly not confined to older teenagers. As shown in Figure 1, just less than 5% of grade 7 students were classified as dependent drinkers, while 18% of girls and 31% of boys at the grade 12 level reported a behavioral preference for drinking as a means of managing one or more emotions.

The prevalence of dependent drinking among boys and girls was quite similar between grades 7 and 10. After that point, however, the prevalence of

TABLE 2

Prevalence of Dependent and Non-dependent Drinkers

Groups	Girls (n=1223)	Boys (n=1176)
Non-drinkers	19%	20%
Drinkers:		
Total	79%	76%
Non-dependent	64%	58%
Dependent	15%	18%
No Response	2%	4%

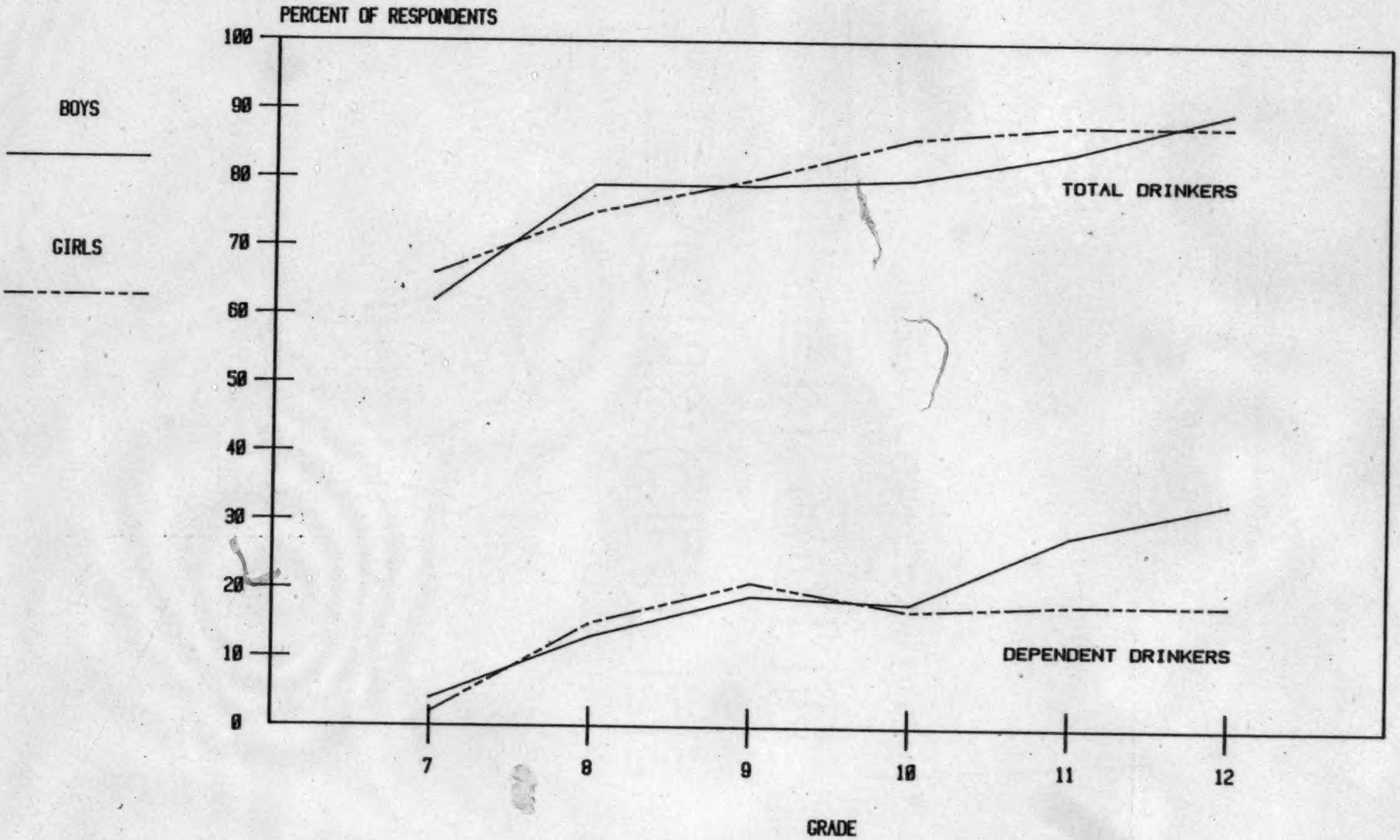

FIGURE 1: PREVALENCE OF TOTAL DRINKERS AND DEPENDENT DRINKERS BY GRADE
(IN PAST 6 MONTHS)

dependent drinkers among teenage boys accelerated while the prevalence of dependent drinkers among girls remained stable. This increasing prevalence among boys during the last few years of high school is consistent with the greater prevalence of males than females among frequent heavy drinkers in 18 to 25 year age group (Blane, 1979).

Several additional measures revealed a greater involvement with alcohol among boys in comparison with girls, which is typically reported for teenagers and young adults (Smart, 1980c). In comparison with girls, more boys reported usually drinking to manage two or more of the six positive and negative feelings (4.5% vs. 7.1% of all high school girls and boys, respectively: $X^2 = 6.79$, df = 1, $p < .01$) and usually drinking to overcome one or more of the three negative feelings (3.2% vs. 5.5% of all high school girls and boys, respectively: $X^2 = 7.15$, df = 1, $p < .01$).

Overall, these findings indicate that the vast majority of high-school-aged teenagers drink and between 15% and 18% of them prefer to drink as a means of coping with negative feelings or promoting pleasure. Thus, a substantial proportion of teenagers have already learned to treat drinking as an important coping behavior before it has become legal for them to drink.

Measurement Effects This study involved two different questionnaire forms varied according to whether the drug options were located first or last in the list of possible behaviors usually used to manage feelings. There was no significant relationship between the prevalence of dependent drinkers and the questionnaire form among boys ($X^2 = 0.05$, df = 1, NS), and, given the large sample size, only a marginal association among girls, ($X^2 + 9.89$, df = 1, $p < .01$). On Form A, where the drug options were placed first on the list, 23% of female drinkers were classified as dependent. On Form B, 14% were classified as dependent. This relationship among the girls accounted for only about 1% of the variance, but did result in a noteworthy difference in prevalence.

This difference in prevalence was consistent across each of the grade levels and was not an artifact of a Form by grade interaction. Although slightly different proportions of girls received Form A at each grade level, the relationship was non-significant at the .05 level ($\chi^2 = 6.12$, df = 5, NS).

Teenage girls may have been more responsive than teenage boys to expectations they perceived in the ordering of the drug use behaviors in the list of options they were provided for answering the behavioral preference questions. If this effect was pervasive; girls answering Form A should have reported significantly higher prevalence of perceived dependence among their mothers, fathers and best friends than girls responding to Form B. This was not the case ($\chi^2 = 0.06$, df = 2, NS; $\chi^2 = 0.64$, df = 2, NS; $\chi^2 = 3.76$, df = 2, NS; respectively), although the differences were in the that direction. For example, among all teenage girls the prevalence of dependent drinkers among their best friends were 27% on Form A and 22% on Form B. Strictly speaking, however, the effect was limited to the girls' responses about themselves and did not have a pervasive effect on the remaining portions of the questionnaire.

That Form A did elicit a higher prevalence of dependent drinkers among girls than Form B, suggests that the Form A dependent drinkers may represent a different population of dependent drinkers than Form B. Some of the Form A dependent drinkers would have been classified as non-dependent if they had filled out Form B instead. In other words, Form A dependent drinkers should differ from Form B dependent drinkers and look somewhat like non-dependent drinkers. To test this hypothesis, Form A and Form B dependent girls were compared on 26 measures which discriminated between all dependent and non-dependent female drinkers. The results revealed no significant differences between the Form A and Form B dependent girls at or beyond the 0.05 level. Thus, there is little reason to believe that they represent different populations.

In summary, the measurement effect observed among teenage girls was not spurious, did not extend beyond respondences about their own behavioral preferences and did not result in different types of dependent drinkers. The measurement effect appears to be relatively small. Drug and non-drug options can be mixed together in future research, to minimize this measurement effect.

Characteristics of Dependent and Non-dependent Drinkers

It was hypothesized that in comparison with non-dependent drinkers, dependent drinkers will:

1) drink more
2) be more likely to use other drugs in addition to alcohol, and
3) be more likely to have experienced alcohol-related problems.

All three hypotheses were confirmed.

I. Drinking Habits

As shown in Tables 3 and 4, dependent teenage drinkers drank more frequently with and especially without their parents, and consumed greater average quantities of alcohol when drinking either with or without their parents, than did non-dependent drinkers. In other words, teenagers who say that they use alcohol as their preferred means of coping with various emotions actually consume more alcohol with and without their parents than do other teenagers who drink but do not rely on drinking as a preferred means for dealing with negative emotions or producing pleasure.

TABLE 3

Amount of Drinking by Dependent
and Non-dependent Male Drinkers

Amount of drinking	Non-dependent (*n*=681)	Dependent (*n*=207)	χ^2
Frequency of drinking during past 6 months:			
With Parents			19.20**
None	15%	17%	
1-2 times	40%	27%	
3-12 times	36%	38%	
13+ times	9%	18%	
Without Parents			141.69**
None	25%	1%	
1-2 times	28%	12%	
3-12 times	31%	41%	
13+ times	16%	46%	
Average number of drinks			
With Parents			60.95**
1	57%	31%	
2	29%	34%	
3+	14%	35%	
Without Parents			80.07**
1	23%	7%	
2	24%	11%	
3+	53%	82%	
(6+)	(11%)	(33%)	

** $p<.001$

TABLE 4

Amount of Drinking by Dependent
and Non-dependent Female Drinkers

Amount of drinking	Non-dependent (n=780)	Dependent (n=181)	χ^2
Frequency of drinking during past 6 months:			
With Parents			39.85**
None	16%	16%	
1-2 times	43%	25%	
3-12 times	34%	38%	
13+ times	7%	20%	
Without Parents			185.18**
None	29%	1%	
1-2 times	25%	6%	
3-12 times	31%	37%	
13+ times	15%	56%	
Average number of drinks			
With Parents			73.78**
1	61%	30%	
2	26%	36%	
3+	23%	34%	
Without Parents			125.03**
1	30%	3%	
2	23%	9%	
3+	47%	88%	
(6+)	(6%)	(23%)	

**$p < .001$

In a recent study of teenage drinking attitudes and behavior in Alberta, Heffring (Note 6) noted that different types of alcoholic beverages are viewed by teenagers as more or less appropriate for different types of circumstances. Beer is considered appropriate for a "rowdy mood", wine is viewed as a dinner beverage used to celebrate or impress, and liquor is viewed as appropriate when "there's something to forget." In other words, beer and liquor are viewed as the beverages of choice when mood alteration is the purpose for drinking.

The present survey revealed that the prevalence of drinking beer and liquor was considerably higher among *dependent* than *non-dependent* drinkers (see Tables 5 and 6). This finding is consistent with the motivations attributed to drinking beer and liquor, described by Heffring, and with the behavioral preference measure used to identify *dependent* drinkers. By definition, *dependent* drinkers consume alcohol to manage one or more emotions. And, as shown in Tables 5 and 6, *dependent* drinkers were more likely than *non-dependent* drinkers to drink primarily for the effect (for fun or to feel better) during the past six months.

TABLE 5

Drinking Patterns of Dependent and

Non-dependent Male Drinkers

Drinking Patterns	Non-dependent ($\underline{n}$=681)	Dependent ($\underline{n}$=207)	χ^2
Beverages consumed:[a]			
Beer	54%	93%	101.88**
Wine	48%	51%	0.36
Liquor	48%	84%	83.34**
Primary reason for drinking:			70.79**
Special occasion	51%	23%	
For fun	30%	52%	
To feel better	3%	10%	
Because others were	6%	6%	
Other	10%	9%	
Emotions:[b]			
Tense/nervous	–	9%	
Unhappy/discouraged	–	19%	
Angry/mad	–	9%	
Thrilled/excited	–	38%	
Feeling good/ enjoying life	–	32%	
Relaxed with peers	–	46%	

** $p<.001$

[a] During the past 30 days.

[b] Emotions for which behavioural preferences for drinking were selected by dependent drinkers.

TABLE 6

Drinking Patterns of Dependent and Non-dependent Female Drinkers

Drinking Patterns	Non-dependent (_n_=780)	Dependent (_n_=181)	χ^2
Beverages consumed:[a]			
Beer	41%	82%	95.97**
Wine	54%	64%	5.58
Liquor	49%	89%	94.46**
Primary reason for drinking:			110.15**
Special occasion	55%	18%	
For fun	28%	57%	
To feel better	3%	12%	
Because others were	6%	3%	
Other	8%	10%	
Emotions:[b]			
Tense/nervous	–	7%	
Unhappy/discouraged	–	7%	
Angry/mad	–	9%	
Thrilled/excited	–	48%	
Feeling good/ enjoying life	–	21%	
Relaxed with peers	–	42%	

** $p < .001$

[a] During the past 30 days.

[b] Emotions for which behavioural preferences for drinking were selected by dependent drinkers.

A recent survey of 451 Alberta teenagers between the ages of 12 and 17 revealed that 9% of teenagers have a positive attitude toward drinking whenever a person feels nervous or unhappy, and 30% have a positive attitude toward drinking whenever a person wants to have a good time with friends (Ratcliffe, Note 7). In general then, drinking is viewed more as a way of producing pleasure than overcoming negative feelings, but both types of motivations exist.

In the present study, dependent drinkers were more likely to report that their primary reason for drinking during the past six months was for fun rather than to feel better, (see Tables 5 and 6). Also, the emotions for which dependent drinkers reported behavioral preferences for drinking were more likely to be positive than negative. Among dependent drinkers, 28% of boys (5% of all drinkers) and 20% of girls (3% of all drinkers) reported behavioral preferences for drinking as a means of coping with one or more of the three negative emotions considered in this study.

In future research it may be useful to divide dependent drinkers into those with behavioral preferences for promoting pleasure only and those with behavioral preferences for managing negative feelings, since different types of alternatives will likely be useful with these two types of dependent drinkers.

II. Other Drug Use

Table 7 shows that in comparison with non-dependent drinkers, dependent drinkers are twice as likely to smoke cigarettes and cannabis, and use other drugs as well. For example, 80% of dependent girls smoked cigarettes in comparison with 35% of non-dependent girls. Thus, dependence on alcohol is associated with other health-compromising behaviors and does appear to reflect a general predisposition to seek chemical means for managing emotions.

TABLE 7

Other Drug Use of Dependent and Non-dependent Drinkers

Other Drug Use	Non-dependent	Dependent	χ^2
Males	(n=681)	(n=207)	
Tobacco	19%	41%	39.98**
Cannabis	29%	63%	76.38**
Other drugs[a]	17%	30%	18.28**
Females	(n=780)	(n=181)	
Tobacco	35%	80%	122.39**
Cannabis	27%	67%	102.21**
Other drugs[a]	16%	41%	56.18**

Note: Tobacco use referred to the past month, while the use of other substances referred to past 6 months.

[a] This included using one or more of the following: hallucinogens, amphetamines, opiates, tranquilizers, barbituates or glue.

**$p < .001$

III. Consequences of Drinking

As shown in Tables 8 and 9, dependent drinkers were more likely than non-dependent drinkers to have been drunk during the past 6 months, and to have experienced problem consequences which affected themselves or others. It should be noted that not all of the dependent drinkers reported having been drunk or having problems as a result of drinking and that some of the non-dependent drinkers did. In other words, problem consequences and dependence, as defined here, are not synonymous.

As indicated earlier in this paper, a similar overlapping but non-isomorphic relationship between "dependent" and "problem" drinking has been documented by Smart (1980b).

Smart's apparent reason for identifying dependent drinkers was similar to the intentions underlying the present study: Since problem consequences of youth drinking are often transient, identifying those at risk to longer term problems with alcohol may be served best by identifying those dependent on alcohol.

TABLE 8

Drinking Consequences of Dependent and Non-dependent Male Drinkers

Consequences of drinking	Non-dependent (n=681)	Dependent (n=207)	χ^2
Drunk during past 6 months	47%	90%	115.76**
Bad experience(s) for[a]			
Self	13%	33%	40.38**
Others	25%	42%	19.32**
Changes in friends[b]			
Lost friends	11%	14%	1.04
Gained friends	21%	47%	48.68**

[a] Respondents who reported that they themselves or those around them had had one or more bad experiences as a result of their drinking or the use of other drugs.

[b] Respondents who reported losing or gaining one or more friends as a result of drinking or the use of other drugs.

**$p < .001$

TABLE 9

Drinking Consequences of Dependent and Non-dependent Female Drinkers

Consequences of drinking	Non-dependent (n=780)	Dependent (n=181)	χ^2
Drunk during past			
6 months	42%	93%	148.10**
Bad experience (s) for[a]			
Self	18%	50%	82.57**
Others	25%	46%	30.80**
Changes in friends[b]			
Lost friends	10%	14%	2.80
Gained friends	20%	47%	58.99**

[a] Respondents who reported that they themselves or those around them had had one or more bad experiences as a result of their drinking or the use of other drugs.

[b] Respondents who reported losing or gaining one or more friends as a result of drinking or the use of other drugs.

** $p < .001$

As shown in Tables 8 and 9, although dependent drinkers were not any more likely to have reported losing friends as a result of drinking, they were more likely than non-dependent drinkers to report gaining new friends as a result of drinking and the use of other drugs. In other words, their drinking was associated with social mobility and perhaps less stable relationships, although this was not assessed. Certainly their most frequent weekend evening activity was more likely to involve partying (see Table 10), than non-dependent drinkers. This provides some indication of their general lifestyle -- the seeking and sharing of "good times", with new acquaintances. Many of these new friends gained in content of drinking may constitute "drinking buddies" who now displace longer term friends less disposed to drinking or other types of drug use. This speculation is supported, in part, when involvement in drinking by the respondent's best friend is examined in a later section of this report.

On a methodical note, it must be acknowledged that these measures of the consequences of drinking were confounded with the consequences of other drug use. To meet purposes other than those specific to this paper, compound questions were used to determine consequences. For example, respondents were asked "In the past 6 months did you lose any friends as a result of drinking or the use of any other drugs?" Separate measures of the consequences of drinking and other drug use would have provided cleaner results.

TABLE 10

Most Frequent Weekend Evening Activity of Dependent and Non-dependent Drinkers

	Non-dependent	Dependent	χ^2
Male Drinkers'			
Weekend Activities:	(n=681)	(n=207)	73.28**
Visit with friend	31%	23%	
Party	26%	56%	
Stay home	17%	3%	
Organized activity	13%	7%	
Work	12%	11%	
Female Drinkers'			
Weekend Activities:	(n=780)	(n=181)	90.29**
Visit with friend	32%	17%	
Party	32%	67%	
Stay home	14%	2%	
Organized activity	8%	1%	
Work	14%	12%	

**$p < .001$

Possible Contributing Factors

Several hypotheses were stated about why some teenage drinkers become dependent on alcohol while others do not. Based on previous research it was hypothesized that in comparison with non-dependent drinkers, dependent teenage drinkers are more likely to:

1) come from homes where one or more parent is perceived as dependent on alcohol,
2) associate with peers who are perceived as dependent on alcohol,
3) experience more conflict with and emotional distance from their parents,
4) experience less success in attaining usual life goals, and
5) experience more frequent negative and less frequent positive emotions.

The first four hypotheses were confirmed, the last was not.

Perceived Dependence Among Parents and Peers Many adolescents perceived their parents and best friends to be dependent on alcohol for managing their emotions. Among all drinkers, just less than half perceived their father to be in some way dependent on alcohol, about 20% perceived their mother to be dependent and about 30% perceived their best friend as dependent (see Table 11). Among all respondents (drinkers and non-drinkers), 40% perceived their father, 18% their mother and 26% their best friend to be dependent on drinking (usually used) for pleasure or to cover some negative feelings. These findings indicate that many adolescent's view drinking as a common and acceptable method for producing pleasure and coping with negative feelings. These views were shared equally by boys and girls.

TABLE 11

Perceived Alcohol Dependence Among Significant Others of Male and Female Drinkers[1]

Usually use alcohol to manage . . .	Females (_n_=961)	Males (_n_=888)
Father:		
negative feelings	20%	22%
positive feelings	37%	37%
either	43%	46%
Mother:		
negative feelings	8%	7%
positive feelings	17%	17%
either	21%	21%
Best friend:		
negative feelings	8%	12%
positive feelings	26%	28%
either	29%	33%

[1] _Dependent_ and _non-dependent_ drinkers combined.

The relatively higher prevalence of dependence among fathers as compared with mothers is congruent with:

1) Blane's (1980) observation that more males than females are frequent heavy drinkers and alcoholics, and

2) the greater prevalence of dependence among teenage boys than girls during the final years of high school (see Figure 1).

In comparison with non-dependent drinkers, proportionately more dependent drinkers perceived their significant others to be dependent on alcohol. About 60% more fathers, 110% more mothers, and 250% more best friends were viewed as dependent by dependent teenaged drinkers (see Tables 12 and 13, and Figure 2).

The strong association between self and best friend's alcohol dependence (PHI's of .46 for boys and .44 for girls) is consistent with Kandel's recent observation that:

> "The most consistent and reproducible finding in drug research is the strong relationships between an individual's drug use and con-current drug use of friends, either as perceived by the adolescent or as reported by friends." (Kandel, 1980, p. 235).

TABLE 12

Incidence of Perceived Alcohol Dependence Among Significant Others of Dependent and Non-dependent Male Drinkers

	Non-dependent (n=681)	Dependent (n=207)	χ^2
Father	41%	63%	27.38**
Mother	17%	34%	25.97**
Best male friend	21%	72%	181.77**
Dependent Parents:			39.61**
Neither	57%	31%	
Father only	26%	37%	
Father and mother	15%	27%	
Mother only	2%	5%	
Dependent Parents and Best Friend:			178.27**
Neither	49%	9%	
Parent(s) only	30%	17%	
Best male friend only	9%	22%	
Both parent(s) and best male friend	12%	52%	

**$p < .001$

TABLE 13

Incidence of Perceived Alcohol Dependence Among Significant Others of Dependent and Non-dependent Female Drinkers

	Non-dependent (n=780)	Dependent (n=181)	χ^2
Father	39%	64%	33.45**
Mother	17%	37%	33.22**
Best female friend	19%	71%	179.69**
Dependent Parents:			48.82**
Neither	58%	30%	
Father only	25%	34%	
Father and mother	13%	32%	
Mother only	4%	4%	
Dependent Parents and Best Friend			158.10**
Neither	51%	12%	
Parent(s) only	30%	19%	
Best female friend only	7%	18%	
Both parent(s) and best female friend	12%	51%	

**$p < .001$

Selecting new friends on basis of similar drinking behavior, and the peer influence of longer-term friends may both have contributed to the strong association between dependence on alcohol among best friends and respondents. As noted earlier, 47% of *dependent* drinkers reported gaining new friends as a result of drinking, some of whom may have become their best friends. Among those who reported making new friends as a result of drinking (either *dependent* or *non-dependent* drinkers), at least twice as many (41% vs. 20%, for boys; 43% vs. 17%, for girls) reported that their best friend was dependent on alcohol (boys: $X^2 = 41.7$, *df* = 1, *p* .001; girls: $X^2 = 67.6$, *df* = 1, $p<.001$).

The association between respondent and significant others' *dependence* on alcohol was strong. Only about 10% of *dependent* drinkers reported that neither their best friend nor their parents were *dependent* drinkers (see Tables 12 and 13, and Appendix G-3 and G-4).

Scholastic Standing *Dependent* drinkers reported lower grades in school than *non-dependent* drinkers (see Table 14). This finding adds support to the conclusion of Braught et al. (1973) that adolescents heavily involved with alcohol have "a general lack of success in the attainment of life goals" (p.55). It may be that involvement with alcohol and other drugs springs from dissatisfaction with academic achievement, contributes to poor performance, or both. Further information on academic history would help to clarify this relationship.

TABLE 14

Scholastic Standing and Age of Dependent and Non-dependent Drinkers

Demographic Characteristics	Non-dependent	Dependent	χ^2
Males	(n=681)	(n=207)	
Scholastic standing			
(67%+)	53%	31%	42.48**
Mean age (years)	14.7	15.7	7.06a**
Females	(n=780)	(n=181)	
Scholastic standing			
(67%+)	59%	40%	38.20**
Mean age (years)	14.9	15.7	4.49a**

[a] t-test

**p< .001

As shown in Table 14, dependent drinkers were about one year older than non-dependent drinkers, on the average. However, as shown in Figure 1 both dependent and non-dependent drinkers were found in each high school grade; dependent drinking was not exclusive to older students.

Family Environment In comparison with non-dependent drinkers, dependent drinkers:

1) reported more conflict and unresolved arguments with their parents,
2) were more likely to feel better understood by their friends than their parents, and
3) were less likely to respect the opinions of their parents more than the opinions of their friends (see Tables 15 and 16).

It could be argued that gaining social distance from parents simply reflects maturity in adolescents and that these differences emerged simply because dependent drinkers are older than non-dependent drinkers, on the average. However, correlations between age and feeling understood by parents or respecting the opinions of parents were low and non-significant (Pearson Product Moment Correlations of less than 0.10). Thus, dependent drinkers appear to come from families in which there is greater conflict with and estrangement from parents.

Although there was a tendency for fewer dependent drinkers than non-dependent drinkers to live with both their father and mother, this difference was not significant at the .001 level.

TABLE 15

Family Environments of Dependent and Non-dependent Male Drinkers

Family Environment	Non-dependent (_n_=681)	Dependent (_n_=207)	†
Unresolved arguments with parents[a] (mean frequency)	2.9	3.5	4.94**
Conflict with parents[b] (mean amount)	1.9	2.2	4.87**
Better understood by friends than parents	41%	56%	15.62[c]**
Parents opinions respected more than friends	55%	45%	16.36[c]**
Lives with mother and father	83%	77%	3.40[c]

[a] Frequency of unresolved arguments with parents during past 30 days where: 2 = once, 3 = twice, 4 = 3-5 times.

[b] Conflict with parents where: 1 = no conflict, 2 = a little, 3 = considerable, 4 = don't get along at all.

[c] Chi-square test

** $p < .001$

TABLE 16

Family Environments of Dependent and Non-dependent Female Drinkers

Family Environment	Non-dependent (n=780)	Dependent (n=181)	t
Unresolved arguments with parents[a] (mean frequency)	3.2	3.9	4.69**
Conflict with parents[b] (mean amount)	2.1	2.4	4.42**
Better understood by friends than parents	53%	72%	20.42[c]**
Parents opinions respected more than friends	38%	29%	31.85[c]**
Lives with mother and father	77%	67%	6.88[c]

[a] Frequency of unresolved arguments with parents during past 30 days where: 2 = once, 3 = twice, 4 = 3-5 times.

[b] Conflict with parents where: 1 = no conflict, 2 = a little, 3 = considerable, 4 = don't get along at all.

[c] Chi-square test

** $p < .001$

Recent Emotions For the most part, dependent drinkers did not report more negative feelings or fewer positive feelings than non-dependent drinkers (see Table 17). These findings provide no support for the idea that dependence on alcohol springs in part from the neccessity to manage more frequent negative feelings. In addition, although dependent drinkers may lack the positive experiences that non-dependent drinkers enjoy while pursuing alternatives to drinking, drinking appears to compensate sufficiently so that positive feelings are no less frequent among dependent drinkers, with one exception. Dependent girls generally "felt good" less frequently than their non-dependent counterparts. However, this difference was small (omega squared = .01).

TABLE 17

Mean Frequency Of Emotions Experienced By Dependent and Non-dependent Drinkers[a]

Emotions	Non-dependent	Dependent	t
Male Drinkers	(n=681)	(n=207)	
Tense	2.1	2.3	2.13
Unhappy	2.2	2.3	1.62
Angry	2.3	2.4	1.00
Thrilled	2.9	2.9	0.02
Feeling good	4.1	3.9	2.24
Relaxed with others	4.2	4.2	0.39
Female Drinkers	(n=780)	(n=181)	
Tense	2.5	2.7	1.32
Unhappy	2.5	2.7	2.21
Angry	2.5	2.8	2.19
Thrilled	3.1	3.3	2.02
Feeling good	4.0	3.6	3.67**
Relaxed with others	4.3	4.2	1.20

[a] Where 2 = 1-5 days, 3 = 6-10 days, 4 = 11-20 days, 5 = 21-25 days.

** $p < .001$

7

Alternatives to Drinking

In this study adolescents were asked to indicate which behavior, among a list of options, that they *usually used* when they felt or wanted to feel a certain way. Their responses to these questions were used to classify them as *dependent* or *non-dependent* drinkers. The adolescents who were classified as *non-dependent* selected options other than drinking as their preferred (usually used) method of handling negative feelings or promoting pleasure. The broad types of behaviors that *non-dependent* drinkers preferred in comparison with *dependent* drinkers are shown in Tables 18 through 21.

In comparison with *dependent* drinkers, more *non-dependent* drinkers preferred sports/physical exercise and socializing with peers for promoting pleasure along with hobbies, watching TV/listening to radio or music and to a lesser extent, reading.

The difference in socializing should not be taken to imply that *dependent* drinkers are less gregarious than *non-dependent* drinkers. As was indicated earlier, *dependent* drinkers party frequently; the difference appears to reflect the focus of the social activities. *Dependent* drinkers appear to get together with others to drink, while *non-dependent* drinkers get together with others just to socialize.

In comparison with *dependent* female drinkers, *non-dependent* females were less likely to smoke cigarettes or simply vent their feelings (yell, scream and complain) as a means of handling negative feelings. They were more likely to engage in a distracting activity (watch TV/listen to radio or music/read), think about the problem, or discuss their problem with others.

Among males, non-dependent drinkers were generally more likely to engage in distracting activities or think about the problem as a means of managing negative feelings than dependent drinkers.

TABLE 18

Behavioral Preferences of Dependent and Non-dependent Male Drinkers: Positive Feelings[a]

Behavioral Preferences	Thrill		Feel Good		Relax With Friends	
	N-D[1]	D[2]	N-D	D	N-D	D
Illegal drug	7	9	5	9	5	7
Alcohol	—	38	—	32	—	46
Tobacco	—	1	1	—	2	3
Coffee/soft drink	—	—	—	1	1	1
Food	1	—	—	—	1	1
Sport/exercise	34	15	35	20	25	11
Hobby/project	6	3	10	2	3	1
Relaxation technique	1	1	1	1	1	1
TV/radio/music/read	5	3	7	2	5	1
Think about problem	—	—	1	1	1	—
Yell/complain	—	—	—	1	—	—
Discuss problem with others	—	—	—	—	2	1
Socialize	21	12	33	26	48	21
Risky activity	19	17	4	4	2	2
Other	4	2	3	2	4	1
Does not apply	1	—	—	—	1	1
Don't know	—	—	—	—	1	1

[a] In percent

[1] Non-dependent drinkers (n = 681)

[2] Dependent drinkers (n = 207)

TABLE 19

Behavioral Preferences of Dependent and Non-dependent Female Drinkers: Positive Feelings[a]

	Thrill		Feel Good		Relax With Friends	
Behavioral Preferences	N-D[1]	D[2]	N-D	D	N-D	D
Illegal drug	6	8	4	9	4	4
Alcohol	—	48	—	21	—	42
Tobacco	1	1	—	3	3	8
Coffee/soft drink	—	1	—	—	1	2
Food	1	2	—	—	1	—
Sport/exercise	25	6	26	20	14	3
Hobby/project	4	—	6	1	1	—
Relaxation technique	—	—	1	1	1	1
TV/radio/music/read	5	2	6	4	5	5
Think about problem	—	1	1	1	—	—
Yell/complain	—	1	—	—	—	—
Discuss problem with others	1	1	—	1	3	2
Socialize	45	23	52	37	61	25
Risky activity	7	5	1	1	—	1
Other	3	2	2	3	5	6
Does not apply	1	—	—	—	1	—
Don't know	1	—	—	1	1	1

[a] In percent

[1] Non-dependent drinkers (n = 780)

[2] Dependent drinkers (n = 181)

TABLE 20

Behavioral Preferences of Dependent and Non-dependent Male Drinkers: Negative Feelings[a]

	Tense		Unhappy		Angry	
Behavioral Preferences	N-D[1]	D[2]	N-D	D	N-D	D
Illegal drug	3	3	3	3	1	2
Alcohol	—	9	—	19	—	9
Tobacco	4	10	1	1	2	1
Coffee/soft drink	2	1	1	1	—	—
Food	5	5	3	1	2	1
Sport/exercise	14	9	5	7	7	4
Hobby/project	6	3	6	2	3	1
Relaxation technique	4	5	5	4	4	4
TV/radio/music/read	38	30	33	24	19	13
Think about problem	12	9	24	18	16	16
Yell/complain	1	—	3	3	15	16
Discuss problem with others	4	4	7	6	14	9
Socialize	3	3	5	3	3	4
Risky activity	1	3	2	1	3	4
Other	2	2	3	4	9	13
Does not apply	1	3	1	2	3	—
Don't know	1	1	—	—	1	3

[a] In percent

[1] Non-dependent drinkers (n = 681)

[2] Dependent drinkers (n = 207)

TABLE 21

Behavioral Preferences of Dependent and Non-dependent

Female Drinkers: Negative Feelings[a]

	Tense		Unhappy		Angry	
Behavioral Preferences	N-D[1]	D[2]	N-D	D	N-D	D
Illegal drug	1	2	2	6	1	4
Alcohol	—	7	—	7	—	9
Tobacco	9	30	2	6	2	8
Coffee/soft drink	1	1	—	1	—	—
Food	9	8	5	7	2	3
Sport/exercise	7	4	2	1	3	1
Hobby/project	4	1	4	1	3	—
Relaxation technique	5	3	4	4	4	1
TV/radio/music/read	28	17	24	17	10	6
Think about problem	17	11	24	26	21	17
Yell/complain	1	3	6	8	19	30
Discuss problem with others	13	8	22	13	25	15
Socialize	2	2	4	3	2	3
Risky activity	—	—	—	—	2	2
Other	1	1	1	1	6	2
Does not apply	—	1	—	—	1	1
Don't know	1	—	—	—	—	2

[a] In percent

[1] Non-dependent drinkers (n = 780)

[2] Dependent drinkers (n = 181)

Non-drinkers

Respondents who did not report drinking either with or without their parents in the six months prior to the survey comprised 24% of high school boys and 21% of high school girls.[5] In total they represented 28% of grade 7 and 8% of grade 12 students.

Although they were not the focus of this study, a description of these teenagers will help to round out our view of dependent and non-dependent drinkers. A profile of non-drinkers in comparison with the two types of drinkers is provided in Appendix G, separately for boys and girls.

As shown in Appendix G, non-dependent drinkers fell between non-drinkers and dependent drinkers on most measures. Among those three groups, on the average non-drinkers:

- were the youngest, although they were represented across all grades (see Figure 1)
- had the highest scholastic standings, especially among girls
- appeared to be emotionally closer to their parents (respected their opinions more and had fewer conflicts or arguements)
- were much less party-oriented
- were less involved in other drugs in addition to alcohol

- and generally perceived alcohol to be less readily available to them, although a third of them felt that alcohol was "very" easy to get.

As shown in Figure 2, perceived dependence on alcohol among their father, mother and best friend was much lower for non-drinkers than drinkers. Indeed, over two-thirds of non-drinkers did not perceive either their mother, father or best friend to be dependent, in contrast with 50% of non-dependent drinkers and 10% of dependent drinkers (see Appendix G-3 and G-4). What is most striking about Figure 2 is the substantial difference between dependent and non-dependent drinkers' perceptions of their best friend's involvement with alcohol, a matter which has been discussed previously.

Summary of Findings

In this study, about 60% of teenagers were identified as non-dependent drinkers and about 16% as dependent drinkers. Although dependent drinkers were an average of one year older than non-dependent drinkers, they were distributed across all junior and senior high school grades from grade 7 to grade 12. The prevalence of dependent drinkers increased with grade and was similar for boys and girls up to grade 10. Between grades 10 and 12 the prevalence of dependent drinkers among boys increased rapidly to 31% of grade 12 teenage boys and remained at a constant 18% among girls.

Comparisons between dependent and non-dependent drinkers were made separately for boys and girls. Typically, factors which discrimiated between dependent and non-dependent drinkers held for both boys and girls. If anything, differences between dependent and non-dependent drinkers were more pronounced among girls than boys.

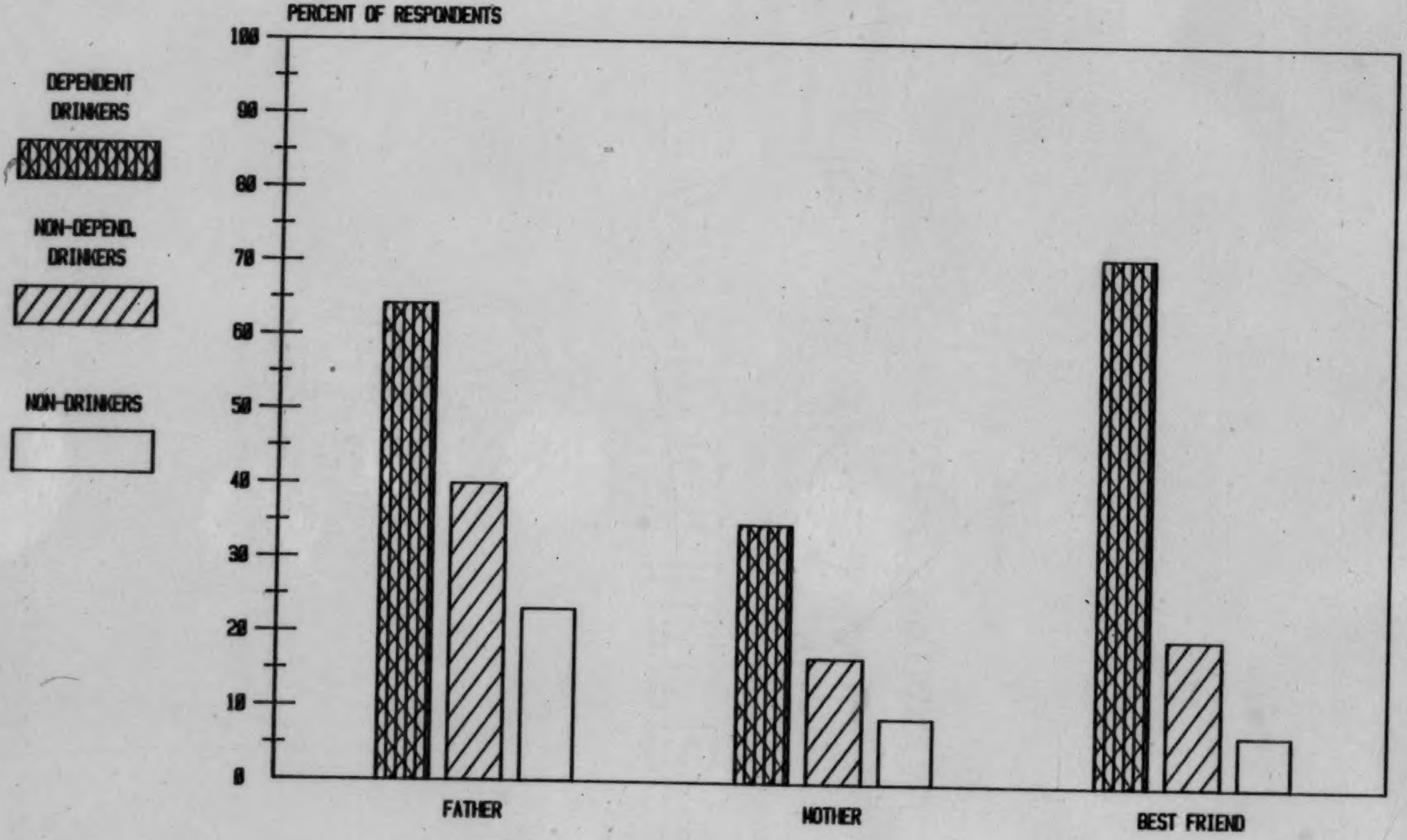

FIGURE 2: PERCEIVED DEPENDENCE ON ALCOHOL
(BOYS AND GIRLS COMBINED)

Girls were more sensitive to variations in the behavioral preference questions than were boys. The prevalence of dependent drinkers among boys was unaffected by the arrangement of options for the behavioral preference questions. However, more girls who responded to the questionnaires in which the drug options were placed first in the response list were classified as dependent in comparison with those girls who responded to the questionnaires in which the drug options were in imbedded further down in the list of response options. It should be noted that this measurement effect was relatively small and did not influence the other findings of this study.

In this study, reporting a behavioral preference for drinking as a means of promoting pleasure or coping with negative emotions clearly reflected a greater involvement with alcohol, and other drugs as well. In comparison with non-dependent drinkers, dependent drinkers drank more per occasion, drank more frequently (especially outside of their family environment) and were more likely to have been intoxicated during the past six months. Consistent with the definition of dependence used in this study, dependent drinkers were more likely to report that their primary reason for drinking during the past six months was for the effect rather than to mark special occasions. A greater proportion of dependent drinkers also used tobacco, cannabis and other drugs, in comparison with non-dependent drinkers.

More dependent than non-dependent drinkers reported experiencing problem consequences as a result of their drinking and drug use. At the same time, more dependent drinkers reported having made new friends as a result of their drinking and drug use.

Dependence on alcohol was positively associated with:

1) perceived *dependence* among best friends, fathers and mothers
2) lower scholastic standings, and
3) greater conflicts with, and emotional distance from parents.

In short, all of the hypothesized relationships held except for those related to recent emotions. For the most part, the frequency of recent positive and negative emotions were similar for *dependent* and *non-dependent* teenage drinkers.

In comparison with *dependent* drinkers, more *non-dependent* drinkers preferred sports and socializing for promoting pleasure and distracting or reflective activities for overcoming negative feelings.

4

DISCUSSION

Learning to Drink

One of the main reasons for prohibiting drinking among adolescents is to allow them time to develop sufficient competence in dealing effectively and constructively with life's trials and challenges, before they have access to chemical means of coping. As Gilbert (1981) has succinctly stated

> "It is reasonable for government to regulate drug use, because drug users can become incapable of regulating themselves. It is especially reasonable to regulate drug use by children, because we should be helping children achieve full responsibility rather than providing them with the means to remain incompetent." (p. 5)

However, most adolescents do drink before reaching the age of majority, many drink regularly and, as this study showed, some exhibit dependence of alcohol as a major coping tool.

Perhaps because of the official prohibition on drinking before a certain age and a general reluctance to acknowledge the extent and nature of alcohol use by children and adolescents, our society has done little to teach young people about how to drink in non-abusive ways or about effective and attractive alternatives to drinking as a means of coping with emotional difficulties or promoting pleasure. As a result, young people have been left to learn about drinking from observing and talking to those around them, from the media and from their own experiments with alcohol.

The majority of parents apparently make some effort to teach their children how to drink. About 60% of adolescents drink with their parents by the time they enter junior high. This increases to 74% by the end of high school (Ratcliffe, Note 5).

Drinking with parents usually involves consuming moderate amounts of alcohol. The majority of adolescents (about 80%) report usually drinking no more than 1 or 2 drinks with their parents, per occasion. However, despite the fact that most parents seem to encourage moderate alcohol consumption among their adolescents, many adolescents perceive their parents to be dependent on alcohol as a preferred means of promoting pleasure or coping with emotional difficulties. Forty percent of fathers (or male guardians) and 18% of mothers (or female guardians) are viewed as dependent on alcohol. It is little wonder, therefore, that over the high school years an increasing number of adolescents also show dependence on alcohol as they evolve toward perceived adult roles.

The prevalence of dependent drinkers among high school boys and girls shows a steady increase toward the prevalence of perceived dependence among their parents. The prevalence of dependent drinkers among teenage girls climbed to 18% by grade 9 and the levelled off, remaining on par with the 18% figure reported for mothers. The prevalence among boys increased steadily to 31% by grade 12, apparently on its way up to the 40% level reported for fathers. These findings suggest that we can anticipate no fewer health and social problems with alcohol as these adolescents mature. To keep down the costs of treating alcohol-related problems, prevention programs will be needed. However, teenage drinking cannot be considered in isolation since teenagers typically attempt to emulate perceived adult norms. Drinking among teenagers has increased substantially over the past 20 years (Smart, 1980c) within the context of increased acceptance of drinking and increased per capita consumption. Little improvement in teenage drinking can be expected unless the overall social context for drinking changes in a positive direction. Fortunately, increasing health consciousness in Canada, as reflected in a declining prevalence of tobacco use (Note 6) and a leveling off of per capita alcohol consumption (Makela, Room, Single, Sulkunen and Walsh, 1981), signals an improved climate for intervention.

Dependence on Alcohol

In the present study, developing dependence on alcohol for managing feelings appears most likely among those teens who experience some difficulty in school, have greater than usual conflict with, and social distance from, parents and typically have one or more parents who exhibit dependence on alcohol (at least in 70% of the cases). With some similar encouragements for drinking from peers and some selection of friends on the basis of similar drinking habits (Alexander and Campbell, 1967), dependent teenagers appear to drift into a subculture characterized by frequent partying, heavy drinking and other drug use. In short, alcohol dependent teens appear to form what could be called the "heavy drinking crowd".

Teenagers themselves appear to differentiate between two types of teenager drinkers similar to the dependent and non-dependent drinkers identified in this study. Heffring (Note 7) reported that Alberta teens view about 10% of their fellow teens as part of the "heavy drinking crowd". They referred to them as "drunkards." "Drunkards" were described as heterogeneous with respect to their family backgrounds, temperments and personality characteristics, but similar in their heavy use of alcohol and other drugs, frequent partying, rowdy behavior and intoxication at school.

The majority of the teens in Heffring's study drank but described themselves as average kids who get reasonable grades, don't get into trouble at school and participate in sports and clubs. Although they liked to party, get drunk and do "crazy" things occasionally, they distinguished themselves from the "heavy drinking crowd" by drinking less, getting drunk less, not drinking at school and not becoming rowdy when drinking (Heffring, Note 7). These teenagers reported that they may go to the same parties as "drunkards", but they don't think of "drunkards" as their friends. To some extent "drunkards" appear to serve as negative role models for these students, reinforcing and helping them define moderate drinking (Heffring, Note 7).

The moderate drinking majority of teens typically described non-drinkers as "goody-goody's" who socialize primarily among themselves. Non-drinkers typically report considerable peer pressure to drink until they either acquiesced or firmly established their non-drinking role, and are left alone (Heffring, Note 6; Alexander and Campbell, 1967).

These descriptive differences between non-drinkers, drinkers and "drunkards" closely parallel the findings of the present study in terms of partying, involvement in sports and structured social activities, academic performance, amount and frequency of drinking, intoxication, and other drug use. In summary, the majority of teenagers appear to want to become moderate and responsible drinkers, in control of alcohol rather than being its victim. They appear to define the boundaries of their drinking in contrast with the behavior of the "heavy drinking crowd" and in the context of perceived adult drinking.

This view of teenage drinking has three major implications for prevention. First, teenage drinking can not be addressed in isolation while ignoring adult drinking without appearing hypocritical to teenagers. Second, interventions with teens must accommodate all types of drinkers since the extent and nature of their drinking occurs in the context of the peer behavior. Interventions should not be confined to dependent drinkers alone since other drinkers may be trying to convert non-drinkers thereby contributing to overall teenage drinking.

Third, that the majority of teenagers are not dependent on alcohol as a preferred method for promoting pleasure or coping with negative feelings, and appear motivated to avoid falling in with the "heavy drinking crowd", suggests fairly pervasive positive attitudes toward drinking that need to be recognized and encouraged in prevention efforts. There is a positive story to tell which could be used to encourage teenagers to help each other.

Prevention

Minimizing serious drinking problems among future adult population will likely require various forms of intervention. One approach can be based on the finding that some teenagers develop a dependence on alcohol for promoting pleasure or coping with negative emotions and the belief that some of these dependent drinkers will likely have serious problems with alcohol later in life.

It must be acknowledged that the predictive validity of the dependent/non-dependent classification used in this study has not been determined as of yet; that was beyond the scope of this research. However, the definition offers face validity and the classification is reliable. Test-retest classification of respondents over the period of one month was the same in 81% of the cases.

Assuming that the dependent classification is predictive of later problems with alcohol, two broad types of intervention can be described: Primary prevention would be aimed at avoiding dependence on alcohol. Secondary prevention (early treatment) would be targetted at dependent drinkers and designed to reduce their dependence on drinking and increase their involvement in more constructive activities.

Interventions should be designed to:

1) increase recognition of dependence on alcohol in one's self and others,
2) encourage the belief that dependence on alcohol threatens teenage (and others') aspirations for independence and control over their lives,
3) increase awareness of, and positive attitudes toward more adaptive alternatives, and
4) promote participation in adaptive alternatives so they become an integral part of a teen's coping skills and general lifestyle.

Mass communication and education programs can be used in primary prevention and should be designed to reach older public school and all high school aged young people. Since the incidence of dependent drinkers increased sharply between the end of grade 7 and the end of grade 8, from less than 5% to about 15% of students, primary prevention should certainly begin in grade 7 and earlier, if possible.

During the pre-testing of the questionnaire used in this study, teachers commented on the usefulness of the questions for stimulating discussion on drinking. Since the questions are phrased in terms of selecting from alternatives to manage experience, they provide an easy introduction to the discussion of coping skills, alternatives and roles that alcohol and other drugs play in effective living. It may be possible to use portions of the existing questionnaire in classroom settings to stimulate discussion and thought, and to identify those teenagers who would benefit from secondary prevention.

From grade 8 on, a sufficient number of adolescents appear to be significantly involved with alcohol to merit special attention. These dependent drinkers would be the target of secondary prevention programs designed to steer them away from their developing habits.

Dependent teenagers appear to live in a social environment unlikely to foster and reinforce viable alternatives. With many of their parents and most of their best friends heavily involved in drinking, dependent drinkers may be less knowledgeable about non-drug alternatives for managing emotions, may lack the skills or resources necessary to pursue many alternatives or may be inhibited from trying various alternatives as a result of peer pressure or fear of failure. Their lower academic performance may be associated with lower self-confidence and a greater desire to simply escape from a demanding world. Understanding more about these factors will help with developing intervention programs. Fortunately, knowledge of alternatives and attitudes toward alternatives are currently under study (Ratcliffe, Note 8).

While communications programs may be helpful with some of the dependent teens, some forms of direct intervention may also be necessary. Given the reported involvement in drinking among their parents and best friends, these teens will likely need more intensive intervention. A more comprehensive life skills program that deals with alternatives to drinking has been outlined by Spoth and Rosenthal (1980) and Miller (1979) has recently reviewed behavioral approaches to alternatives. These papers offer a useful starting point for interventions of this kind.

It is of interest to note that alcohol education materials recently developed by the Ontario Ministry of Health, has a small section of alternatives in the study kit designed for grades 7 and 8. The alternatives section is, however, not included in the study kit for grades 9 and 10, even though it may be of considerable importance for these students, since about 20% of them are dependent on drinking to manage their emotions. Furthermore, the Ministry of Health's alternatives section deals only with non-drug ways to have fun. Coping constructively with negative emotions is not addressed. Drinking for fun appears to be more prevalent among teens than drinking to cope with negative emotions. However, the notion of drinking to overcome anxiety or unhappiness, or to handle anger speaks of a desire to avoid difficulties and escape reality, a poor way to deal with life's trials and tribulations. Surely non-drug alternatives to coping with negative emotions deserve equal attention with alternatives for promoting pleasure.

Smart (1980c) has suggested that attention should be focused primarily on heavy male drinkers as the most important adolescent group at risk to problems with alcohol. The present findings offer some support for this emphasis in terms of secondary prevention, since more boys than girls were classified as dependent especially in grade 12 (31% vs. 18%, respectively) and since more boys showed a greater involvement in drinking than girls (see page 34). However, the incidence of dependence among girls was sufficiently high (18% in senior high school) to suggest that they should not be ignored when designing interventions. Furthermore, the high incidence of smoking (80%) among alcohol dependent girls suggests that they could benefit greatly from intervention focused on the role of drugs in coping behaviors. Thus, since a substantial proportion of teenage girls both smoke and rely on drinking for managing their feelings as they enter their child-bearing age, they deserve consideration in the prevention program described earlier in this chapter.

Summary

This study was conducted to learn more about teenage drinking in order to help develop more effective prevention programs. More specifically, the study was designed to explore a method for identifying dependent teenage drinkers and to compare them with other teenage drinkers.

The study successfully met its objectives. The operational definition of dependence used in this study was reliable and was a valid discriminator of drinking habits that could benefit from intervention. Furthermore, the study identified some of the factors that appeared to determine why some teenagers become dependent on alcohol as a major coping tool while others do not. The study has stimulated further research on the alternatives approach (Ratcliffe, Note 8), and has contributed to the development of a primary prevention program on drinking targetted at teenagers and their parents (Hewitt, Note 9).

FOOTNOTES

[1] This is especially true in the Province of Alberta where this study was conducted. According to the Alberta Alcoholism and Drug Abuse Commission, the per capita consumption in Alberta doubled between 1966 and 1978, after showing only a slight increase over the previous 20 years.

[2] Mr. Tom Bloors and Ms. Barbara Jonsson.

[3] Useful comments on the early drafts of the questionnaire were received from a number of knowledgeable researchers in the addictions field, including: Dr. Irv Rootman (Health Promotion Directorate), Dr. Michael Goodstadt and Margaret Shephard (Addiction Research Foundation), Dr. James Olson (Department of Psychology Chairman, University of Texas - Permian Basin), Dr. Donald Bakal (University of Calgary), and Dr. David Hewitt (Alberta Alcoholism and Drug Abuse Commission).

[4] Since these recommended questions dealt only with frequency of use, additional questions on the quantity of alcoholic beverages used were included. Furthermore, the "I don't know" options were dropped. Students were asked to make their best guess about their level of use of the different substances.

[5] These percentages include those respondents who gave no response on questions 55 and 57 (see Table 2). Those who failed to complete questions 55 and 57 probably did so because they did not drink in the six months prior to the survey.

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APPENDIX A:

Questionnaire

STUDENT SURVEY

Instructions

1. Read each question CAREFULLY.
2. Read EVERY answer to each question before you decide which is the best one for you.
3. Fill in the circle, covering the letter of your answer on the answer sheet with the pencil provided.
4. Mark only one answer for each question.
5. Ask the research assistant to help you with any questions which you do not understand.

1. How old are you?

A. Younger than 10
B. 10
C. 11
D. 12
E. 13
F. 14
G. 15
H. 16
I. 17
J. 18
K. 19
L. Older than 19

2. What grade are you in?

A. 7
B. 8
C. 9
D. 10
E. 11
F. 12

3. Are you male or female?

A. Male
B. Female

PLEASE WAIT FOR FURTHER INSTRUCTIONS

4. During the last 30 days I felt nervous or tense on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

5. When I feel nervous or tense, I usually (please answer with one alternative from the list of actions on your left) - See Appendix C and D.

6. During the last 30 days I felt excited or thrilled on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

7. When I want excitement or a thrill, I usually (please answer with one alternative from the list of actions on your left)

8. During the last 30 days I felt discouraged or unhappy on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

9. When I feel discouraged or unhappy, I usually (please answer with one alternative from the list of actions on your left)

10. During the last 30 days I felt good and enjoyed life on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

11. When I want to feel good and enjoy life, I usually (please answer with one alternative from the list of actions on your left)

12. During the last 30 days I felt angry or mad at someone on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

13. When I feel angry or mad at someone, I usually (please answer with one alternative from the list of actions on your left)

14. During the last 30 days I felt relaxed with others my age and enjoyed their company on:

A. Not at all
B. 1 - 5 days
C. 6 - 10 days
D. 11 - 20 days
E. 21 - 25 days
F. 26 - 30 days

15. When I want to feel relaxed with others my age and enjoy their company I usually (please answer with one alternative from the list of actions on your left)

** The next questions are about how your father or male guardian handles his feelings. If you do not have a father or any other older man who is part of your family, please go to question 22 and continue.

16. When my father (male guardian) wants excitement or a thrill, he usually (please answer with one alternative from the list of actions on your left)

17. When my father (male guardian) feels discouraged or unhappy, he usually (please answer with one alternative from the list of actions on your left)

18. When my father (male guardian) wants to feel good or enjoy life, he usually (please answer with one alternative from the list of actions on your left)

19. When my father (male guardian) feels nervous or tense, he usually (please answer with one alternative from the list of actions on your left)

20. When my father (male guardian) feels angry or mad at someone, he usually (please answer with one alternative from the list of actions on your left)

21. When my father (male guardian) wants to feel relaxed with others his age and enjoy their company he usually (please answer with one alternative from the list of actions on your left)

** The next questions are about how your mother or female guardian handles her feelings. If you do not have a mother or any other older woman who is part of your family, please go to question 28 and continue.

22. When my mother (female guardian) wants excitement or a thrill, she usually (please answer with one alternative from the list of actions on your left)

23. When my mother (female guardian) feels discouraged or unhappy, she usually (please answer with one alternative from the list of actions on your left)

24. When my mother (female guardian) wants to feel good or enjoy life, she usually (please answer with one alternative from the list of actions on your left)

25. When my mother (female guardian) feels nervous or tense, she usually (please answer with one alternative from the list of actions on your left)

26. When my mother (female guardian) feels angry or mad at someone, she usually (please answer with one alternative from the list of actions on your left)

27. When my mother (female guardian) wants to feel relaxed with others her age and enjoy their company she usually (please answer with one alternative from the list of actions on your left)

** The next questions are about how your best friend (who is the same sex as you) handles his/her feelings. If you do not have any friends who are the same sex as you please go on to question 34 and continue.

28. When my best friend wants excitement or a thrill, he/she usually (please answer with one alternative from the list of actions on your left)

29. When my best friend feels discouraged or unhappy, he/she usually (please answer with one alternative from the list of actions on your left)

30. When my best friend wants to feel good or enjoy life, he/she usually (please answer with one alternative from the list of actions on your left)

31. When my best friend feels nervous or tense, he/she usually (please answer with one alternative from the list of actions on your left)

32. When my best friend feels angry or mad at someone, he/she usually (please answer with one alternative from the list of actions on your left)

33. When my best friend wants to feel relaxed with others his/her age and enjoy their company he/she usually (please answer with one alternative from the list of actions on your left)

** The rest of the questions are about you.

34. Who are you living with now?

A.	Mother & father	F.	Other relatives
B.	Mother	G.	Friends
C.	Father	H.	Alone
D.	Mother & stepfather	I.	Other
E.	Father & stepmother		

35. In your family you are:

A. The only child

B. The oldest child

C. In between (or a twin)

D. The youngest child

36. When you have problems, whose ideas and opinions do you respect the most, your parents or your best friends (including your brothers or sisters)?

A. Parents, much more

B. Parents, a little more

C. About equal

D. Best friends, a little more

E. Best friends, much more

37. Who do you think understands you better, your parents or your best friends (including your brothers or sisters)?

A. Parents, much more

B. Parents, a little more

C. About equal

D. Best friends, a little more

E. Best friends, much more

38. During the last 30 days how many times have you had arguments with your parents that ended in disagreement?

A. Not at all	D. 3 -5 times
B. Once	E. 6 - 10 times
C. Twice	F. 11 or more times

39. Thinking about your relations with your parents how much conflict is there between you and your parents?

A. No conflict

B. A little conflict

C. Considerable conflict

D. We do not get along well at all

40. Thinking about your relations with your friends how much conflict is there between you and your friends?

A. No conflict

B. A little conflict

C. Considerable conflict

D. We do not get along well at all

41. What kind of marks do you generally get in most of your subjects in school?

A. A - Outstanding (80%-100%)

B. B - Good (67%-79%)

C. C - Fair (60%-66%)

D. D - Poor (50%-59%)

E. Unsatisfactory (below 50%)

42. What do you most often do in the evening AFTER SCHOOL?

A. Stay at home, read, watch T.V., etc.

B. Go to a friend's house, go out with a friend

C. Activities (sports, music, clubs)

D. Go out or hang around with a group of kids (go to parties or dances)

E. Work

F. Other

43. What do you do most often on WEEKEND EVENINGS?

A. Stay at home, read, watch T.V., etc.

B. Go to a friend's house, go out with a friend

C. Activities (sports, music, clubs)

D. Go out or hang around with a group of kids (go to parties or dances)

E. Other

44. During the last 7 days how many hours did you spend watching TV?

A. None

B. 1 - 5 hours

C. 6 - 10 hours

D. 11 - 20 hours

E. 21 - 40 hours

F. 41 or more hours

** In the following questions the word "drink" means 1 bottle of beer (about 12 ounces) *or* 1 glass of wine (about 4 ounces) *or* 1 shot glass of liquor (about 1 1/2 ounces). If you don't know exactly how much you drank choose the answer you think comes closest. *Don't count tastes or sips*.

45. In the last 30 days I drank *beer* on:

A. Not at all

B. 1 occasion

C. 2 occasions

D. 3 or 4 occasions

E. 5 to 8 occasions

F. 9 to 12 occasions

G. 13 or more occasions

46. In the last 30 days the most beer that I drank at one time was:

- A. Did not drink any beer
- B. 1 - 2 drinks
- C. 3 - 4 drinks
- D. 5 - 6 drinks
- E. 7 - 8 drinks
- F. 9 - 10 drinks
- G. 11 - 12 drinks
- H. 13 - 14 drinks
- I. 15 or more drinks

47. In the last 30 days the average amount of beer that I drank on a typical occasion was:

- A. Did not drink any beer
- B. 1 - 2 drinks
- C. 3 - 4 drinks
- D. 5 - 6 drinks
- E. 7 or more drinks

48. In the last 30 days I drank wine (any type including sparkling wine, sherry, and port) on:

- A. Not at all
- B. 1 occasion
- C. 2 occasions
- D. 3 or 4 occasions
- E. 5 to 8 occasions
- F. 9 to 12 occasions
- G. 13 or more occasions

49. In the last 30 days the most wine that I drank at one time was:

- A. Did not drink any wine
- B. 1 - 2 drinks
- C. 3 - 4 drinks
- D. 5 - 6 drinks
- E. 7 - 8 drinks
- F. 9 - 10 drinks
- G. 11 - 12 drinks
- H. 13 - 14 drinks
- I. 15 or more drinks

50. In the last 30 days the average amount of wine that I drank on a typical occasion was:

- A. Did not drink any wine
- B. 1 - 2 drinks
- C. 3 - 4 drinks
- D. 5 - 6 drinks
- E. 7 or more drinks

51. In the last 30 days I drank liquor (any type including gin, vodka, rum, and whiskey) on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 or more occasions

52. In the last 30 days the most liquor that I drank at one time was:

A. Did not drink any liquor
B. 1 - 2 drinks
C. 3 - 4 drinks
D. 5 - 6 drinks
E. 7 - 8 drinks
F. 9 - 10 drinks
G. 11 - 12 drinks
H. 13 - 14 drinks
I. 15 or more drinks

53. In the last 30 days the average amount of liquor that I drank on a typical occasion was:

A. Did not drink any liquor
B. 1 - 2 drinks
C. 3 - 4 drinks
D. 5 - 6 drinks
E. 7 or more drinks

54. In the last 6 months on how many occasions did you drink alcohol (beer, wine, or liquor) with your parents?

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 to 6 occasions
E. 7 to 12 occasions
F. 13 to 26 occasions
G. 27 to 52 occasions
H. 53 or more occasions

55. When you drink with your parents (parent or guardian) how many drinks do you usually have:

A. I don't drink with my parents

B. 1 drink

C. 2 drinks

D. 3 drinks

E. 4 drinks

F. 5 drinks

G. 6 drinks

H. more than 6 drinks

56. In the last 6 months I drank alcohol (beer, wine, or liquor) without my parents on:

A. Not at all

B. 1 occasion

C. 2 occasions

D. 3 to 6 occasions

E. 7 to 12 occasions

F. 13 to 26 occasions

G. 27 to 52 occasions

H. 53 or more occasions

57. When you drink and your parents (parent or guardian) are not with you how many drinks do you usually have:

A. I don't drink without my parents

B. 1 drink

C. 2 drinks

D. 3 drinks

E. 4 drinks

F. 5 drinks

G. 6 drinks

H. more than 6 drinks

58. In the last 6 months on how many occasions did you drink alcohol (beer, wine, or liquor) UNTIL YOU BECAME DRUNK?

A. Not at all

B. 1 occasion

C. 2 occasions

D. 3 to 6 occasions

E. 7 to 12 occasions

F. 13 to 26 occasions

G. 27 or more occasions

59. In the last 6 months what was your primary reason for drinking alcoholic beverages?

A. To celebrate a special occassion

B. Just for fun

C. Because others were drinking

D. To feel better

E. Other

60. How many cigarettes (including thin cigars) did you smoke in the last 30 days?

A. None

B. Less than 1 a day

C. 1 - 5 a day

D. 6 - 10 a day

E. 11 -19 a day

F. A pack or more a day

61. In the last 6 months I smoked MARIJUANA (grass or pot) or HASHISH (hash) on:

A. Not at all

B. 1 occasion

C. 2 occasions

D. 3 or 4 occasions

E. 5 to 8 occasions

F. 9 to 12 occasions

G. 13 to 26 occasions

H. 27 or more occasions

62. In the last 6 months I have taken HALLUCINOGENS (any type including LSD, MDS, STP, peyote, magic mushrooms, and mescaline) on:

A. Not at all

B. 1 occasion

C. 2 occasions

D. 3 or 4 occasions

E. 5 to 8 occasions

F. 9 to 12 occasions

G. 13 to 26 occasions

H. 27 or more occasions

63. In the last 6 months I have taken AMPHETAMINES (diet pills, pep pills, benzedrine) on a doctor's order on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

64. In the last 6 months I have taken AMPHETAMINES (diet pills, speed, pep pills, bennies, dexies, benzedrine, dexadrine, uppers) without a doctor's order on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

65. In the last 6 months I have taken HEROIN, MORPHINE, or OPIUM on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

66. In the last 6 months I have taken BINDRO (levelers) on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

67. In the last 6 months I have taken TRANQUILIZERS (librium, valium, madribon) on a doctor's order on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

68. In the last 6 months I have taken TRANQUILIZERS (librium, valium, madribon) without a doctor's orders on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

69. In the past 6 months I have taken BARBITURATES (amytal, phenobarbital, seconal) on a doctor's order on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

70. In the past 6 months I have taken BARBITURATES (downers, amytal, phenobarbital, seconal) without a doctor's order on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

71. In the last 6 months I have inhaled (or "sniffed") GLUE or SOLVENTS (gasoline, paint thinner, nail polish remover) to get high on:

A. Not at all
B. 1 occasion
C. 2 occasions
D. 3 or 4 occasions
E. 5 to 8 occasions
F. 9 to 12 occasions
G. 13 to 26 occasions
H. 27 or more occasions

72. In the last 6 months did you have any bad experiences as a result of drinking or the use of any other drug?

A. Did not use any alcohol or other drug
B. No
C. Once
D. 2 - 3 times
E. 4 - 5 times
F. 6 - 10 times
G. 11 - 20 times
H. 21 or more times

73. In the last 6 months did those around you have bad experiences as a result of your drinking or use of other drugs?

A. Did not use any alcohol or other drug
B. No
C. Once
D. 2 - 3 times
E. 4 - 5 times
F. 6 - 10 times
G. 11 - 20 times
H. 21 or more times

74. In the last 6 months did you lose any friends as a result of drinking or the use of any other drugs?

A. No
B. One
C. Two
D. Three or more

75. In the last 6 months did you gain any friends as a result of drinking or the use of any other drugs?

A. No
B. One
C. Two
D. Three or more

** Some drugs are easier to get without a doctors order than other drugs. How easy or difficult was it to get each of the drugs listed below in the last 6 months, even if you did not use them or want to use them.

	Impossible to get	Difficult to get	Fairly easy to get	Very easy to get
76. Alcohol	A	B	C	D
77. Tobacco	A	B	C	D
78. Marijuana or hashish	A	B	C	D
79. Hallucinogens	A	B	C	D
80. Amphetamines (speed, etc.)	A	B	C	D
81. Heroin, morphine or opium	A	B	C	D
82. Bindro	A	B	C	D
83. Tranquilizers	A	B	C	D
84. Barbiturates	A	B	C	D
85. Glue	A	B	C	D

THANK YOU

APPENDIX B:

Behavioral Preference Measures

The Barnes and Olson (1977) questions for measuring behavioral preferences were modified considerably for this study. In their procedure four questions were asked relating to each of six underlying emotional states. These 24 questions along with some filler questions on physical health yielded a total of 35 questions. For this survey only six questions were used, one for each of the six emotional states. However, respondents were asked to answer these questions with reference to their own preferences and the perceived preferences of three of their significant others, their father, mother and same sex best friend. In Barnes and Olson's study the respondents were asked to comment only on their own preferences.

In the most recent version of their questionnaire, Olson and Barnes (1978) provided six drug and nine non-drug options for their respondents to choose between in answering questions related to the management of their feelings. For the purposes of this survey a number of changes were made to this list of alternatives. First, options related to the management of physical health problems were deleted from the list for the sake of brevity. Second, engaging in counselling was also deleted from the list of options since Barnes and Olson reported that it was used infrequently by previous respondents (less than 0.5%).

Third, Barnes and Olson interpreted the use of personal contemplation or discussion with a friend in the management of negative emotional states as an attempt on the part of the respondent to learn from his experience by examining the antecedents of his displeasure. Meditation, prayer, yoga techniques, and daydreaming were used as examples of personal contemplation and reflection. In this survey these activities were placed in other more appropriate categories. Items J and L (see Appendix C) were reworded to reflect more closely the intentions of the previous investigators and allow for greater ease in interpreting the findings.

Fourth, in the study reported by Barnes and Olson (1977), 34% of the students reported engaging in hostile behavior (hitting, kicking, and screaming) in response to their feelings of anger. In the present survey a category dealing with hostile activities and the displaying of emotions was added.

APPENDIX C:

Option List on Form A

Actions from which to Select

A. Take an illegal drug (eg: marijuana, speed, glue, etc.)

B. Drink beer, wine, or liquor.

C. Smoke a pipe, cigar or cigarettes.

D. Drink coffee, tea, or a soft drink.

E. Eat something.

F. Play some sport or exercise (eg: jogging, tennis, camping, skiing, etc.)

G. Work on a hobby or project (eg: carpentry, handiwork, outdoor work, gardening, singing, crafts, sewing, sketching, creative writing, etc.)

H. Try to relax using meditation or yoga, just go to sleep.

I. Watch T.V., listen to music or the radio, read, daydream, etc.

J. Think about problems, go for a walk, just be alone, etc.

K. Scream, yell, kick, cry, complain, etc.

L. Discuss problems with others (eg: a friend, parents, brother, sister, etc.)

M. Do things with others (eg: join a club or church group, have a date, visit a friend, go to a dance, etc.)

N. Do something risky (eg: sky diving, jump off a high diving board, driving a car fast, ride a roller coaster, do something illegal, etc.)

O. Other

P. Does not apply (eg: have never had or wanted this feeling).

Q. Do not know (this alternative is to be used only for questions 16 to 33).

5

APPENDIX D:

Option List on Form B

Actions from which to Select

A. Play some sport or exercise (eg: jogging, tennis, camping, skiing, etc.)

B. Work on a hobby or project (eg: carpentry, handiwork, outdoor work, gardening, singing, crafts, sewing, sketching, creative writing, etc.)

C. Try to relax using meditation or yoga, just go to sleep.

D. Watch T.V., listen to music or the radio, read, daydream, etc.

E. Think about problems, go for a walk, just be alone, etc.

F. Scream, yell, kick, cry, complain, etc.

G. Discuss problems with others (eg: a friend, parents, brother, sister, etc.)

H. Do things with others (eg: join a club or church group, have a date, visit a friend, go to a dance, etc.)

I. Do something risky (eg: sky diving, jump off a high diving board, driving a car fast, ride a roller coaster, do something illegal, etc.)

J. Take an illegal drug (eg: marijuana, speed, glue, etc.)

K. Drink beer, wine, or liquor.

L. Smoke a pipe, cigar or cigarettes.

M. Drink coffee, tea, or a soft drink.

N. Eat something.

O. Other

P. Does not apply (eg: have never had or wanted this feeling).

Q. Do not know (this alternative is to be used only for questions 16 to 33).

APPENDIX E:

Answer Sheet for Optical Scoring

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ
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3 Ⓐ Ⓑ

4 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
5 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
6 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
7 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
8 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
9 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
10 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ
11 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
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13 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
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18 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
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26 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
27 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ

28 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓚ Ⓛ Ⓜ Ⓝ Ⓞ Ⓟ Ⓠ
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69 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ
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FORM Ⓐ Ⓑ

EXAMPLE

WRONG
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WRONG
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RIGHT
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APPENDIX F:

Verbal Instructions

VERBAL INSTRUCTIONS

There are two main purposes for this survey. First, we want to find out how you usually handle your feelings. Second, we want to find out what types of alcohol, tobacco and other drugs that you use, if any. A number of other related questions have also been included in the survey.

If you do not want to participate or do not want to answer certain of the question, you do not have to do so. The information we receive from you as a group will be most useful, however, if each of you answer all of the questions as accurately as you can.

Please do not put your name anywhere on the answer sheet or questionnaire. This is so no one can find out what your answers were.

The instructions for filling out the questionnaire are as follows:

1) Read each question carefully.
2) Read every answer to each question before you decide which is the best answer for you.
3) Fill in the circle, covering the letter of your answer on the answer sheet with the pencil provided. Please look at the example given in the lower right hand corner of the answer sheet. The last example shows you the correct way to fill in the answer of your choice.
4) Mark only one answer for each question.
5) If you find a question which you do not understand please raise your hand so I can see it. I will be happy to answer your question, individually.
6) If at all possible, please answer every question.

Please begin by answering the first three questions on the first page. When you are finished these three questions, please wait for further instructions.

Before we proceed to the second page, would you please mark the item labelled "Form" on the answer sheet. The letter of your form (either A or B) is typed on the lower right hand corner of the first page.

Please turn to page two.

All questions in this survey are multiple choice. Most of the questions look like question #4. That is, a list of answers is provided underneath the question. In each case, pick the best answer for you.

Some of the questions in the first part of the survey are like question #5. As indicated, questions like #5 are to be answered by choosing one action from those listed on the left hand page. When you come to question #5 please take some time to read all of the options listed on the left hand page before you select your answer. The same list of options will be used in answering all the questions like question #5.

When you have finished completing the questionnaire, please put the answer sheet in the booklet and return it to me. Please return all of the pencils as well, since they are specially designed for use with these kinds of answer sheets.

Are there any questions? (Pause)

Again, if you have any questions as you are completing the survey, please raise your hand and I will answer them as best I can.

Please begin.

APPENDIX G:

Non-drinkers

TABLE G-1

CHARACTERISTICS OF MALE NON-DRINKERS

	Non-Drinkers (n = 288)	Non-Dependent (n = 681)	Dependent (n = 201)
Age (mean years)	14.4	14.7	15.7
Scholastic standing (67%+, average)	54%	53%	31%
Respect parents opinions more than peers	46%	39%	25%
Feel better understood by parents than peers	46%	39%	25%
Had no arguements with parents	32%	27%	16%
Experienced no conflict with parents	34%	25%	14%
Weekend evening activities (most frequent)			
Stay at home	25%	16%	3%
Visit friends	30%	31%	23%
Organized activities	16%	13%	7%
Parties/dances	14%	26%	56%
Work	15%	12%	11%
TV viewing (21+ hours/week)	21%	17%	14%
Smoked:			
Cigarettes (past 3 days)	7%	19%	41%
Marijuana/hashish (past 6 months)	11%	29%	63%
Used other drugs (past 6 months)	11%	25%	42%
Lost friends as a result of alcohol or drug use	6%	11%	14%
Gained friends as a result of alcohol or drug use	7%	21%	45%
Alcohol very easy to get	38%	50%	64%

TABLE G-2

CHARACTERISTICS OF FEMALE NON-DRINKERS

	Non-Drinkers (n = 262)	Non-Dependent (n = 780)	Dependent (n = 181)
Age (mean years)	14.2	14.9	15.7
Scholastic standing (67%+, average)	69%	59%	40%
Respect parents opinions more than peers	50%	38%	20%
Feel better understood by parents than peers	37%	26%	14%
Had no arguements with parents	35%	19%	14%
Experienced no conflict with parents	36%	19%	11%
Weekend evening activities: (most frequent)			
Stay at home	31%	14%	2%
Visit friends	28%	32%	17%
Organized activities	19%	8%	1%
Parties/dances	10%	32%	69%
Work	13%	14%	12%
TV viewing (21+ hours/week)	13%	14%	11%
Smoked:			
Cigarettes (past 3 days)	9%	35%	80%
Marijuana/hashish (past 6 months)	5%	27%	67%
Used other drugs (past 6 months)	3%	18%	50%
Lost friends as a result of alcohol or drug use	4%	10%	14%
Gained friends as a result of alcohol or drug use	6%	19%	47%
Alcohol very easy to get	31%	52%	67%

TABLE G-3

PERCEIVE DEPENDENCE AMONG MOTHERS (M), FATHERS (F), AND BEST FRIENDS (BF)*: BOYS ONLY

	Non-Drinker (n = 225)	Non-Dependent (n = 582)	Dependent (n = 176)
NONE	68%	49%	9%
F only	14%	18%	11%
M only	1%	2%	2%
BF only	4%	9%	22%
F & M	8%	9%	4%
F & BF	4%	8%	26%
BF & M	-	-	3%
M, F & BF	1%	5%	23%
TOTAL	100%	100%	100%

*Based on complete data, list-wise.

TABLE G-4

PERCEIVE DEPENDENCE AMONG MOTHERS (M), FATHERS (F), AND BEST FRIENDS (BF)*: GIRLS ONLY

	Non-Drinker (n = 229)	Non-Dependent (n = 677)	Dependent (n = 148)
NONE	75%	50%	11%
F only	11%	18%	11%
M only	3%	3%	2%
BF only	3%	7%	18%
F & M	3%	9%	5%
F & BF	2%	7%	21%
BF & M	-	1%	3%
M, F & BF	1%	5%	28%
TOTAL	98%	100%	99%

*Based on complete data, list-wise.